October 20, 1958

Pads vs. Waste—
The Debate Goes On p. 12

RAILWAY AGE *weekly*

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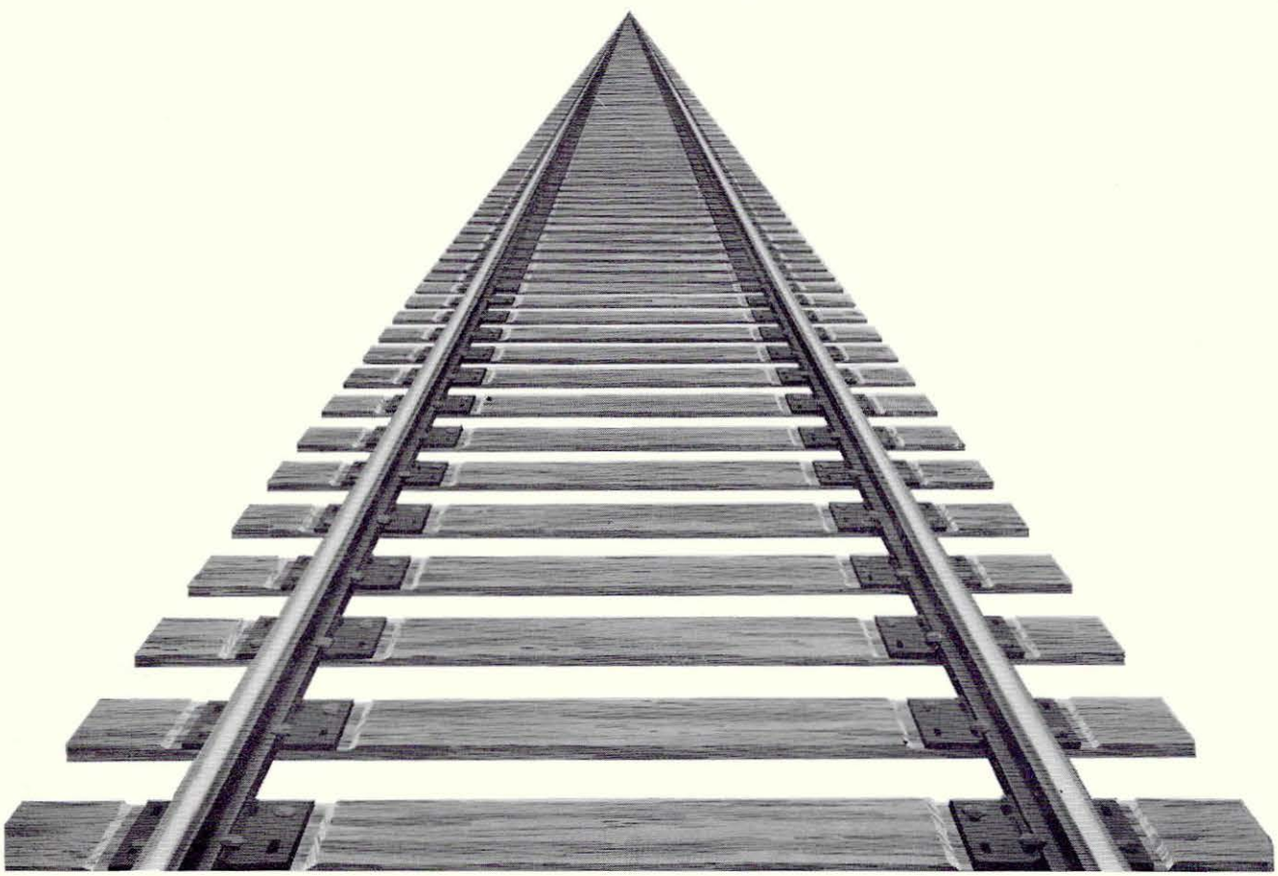

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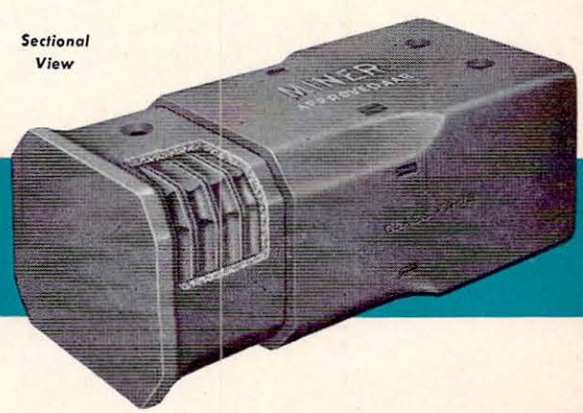

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RAILWAY AGE *weekly* October 20, 1958 • Vol. 145, No. 16

Week at a Glance

Departments

Freight Car Loadings 31
New Equipment 31
People in the News 35
Railroading After Hours .. 24
Railway Market 31
Supply Trade 35
The Action Page 38
Watching Washington 10
You Ought to Know 36

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Union chiefs blast Hosmer Report ..... p. 9

Labor executives accuse management of "deliberate" effort to kill passenger service, will file exceptions to ICC examiner's gloomy forecast. Also ordered by the RLEA: a new public relations campaign to answer "featherbedding" charges leveled at the unions.

Federal aid for RR passenger service? p.10

New Haven President George Alpert calls for government subsidies on a par with those granted to other modes of transportation.

This car shop is built for speed p.25

Union Tank Car Company has built what may be the world's most extraordinary car repair shop. The facility, with two to three times the capacity of a normal shop, is housed in a huge dome. The company already has broken ground for a second such structure.

CNR cuts costs with interlockings and CTC p.26

The road expects to cut annual operating expenses by over $44,000 because of a new terminal interlocking at Hamilton, Ont. The project is a first step toward consolidated interlocking and traffic control on one of Canada's most heavily traveled rail routes.

Symes warns of RR 'bottleneck' p.32

Pennsy president sees threat to national economy in failure of railroads to find investment capital.

The Action Page—Big job for lawyers p.38

Railroads obviously need greater rate-making freedom. With the need so plain, why hasn't the ICC loosened the handcuffs more than it has? It could be that the commission hasn't been asked—with sufficient evidence, eloquence and frequency.

Pads vs. Waste—The Debate Goes On p.12

The AAR's ban on use of loose waste packing on all interchange-service freight cars becomes effective Jan. 1, 1960. The ban, when announced, started a controversy that has not yet ended. This issue of Railway Age presents three articles in which spokesmen for various points of view offer their opinions to our readers.

Why are substitutes necessary?—By W. R. Compton, Jr. p.14

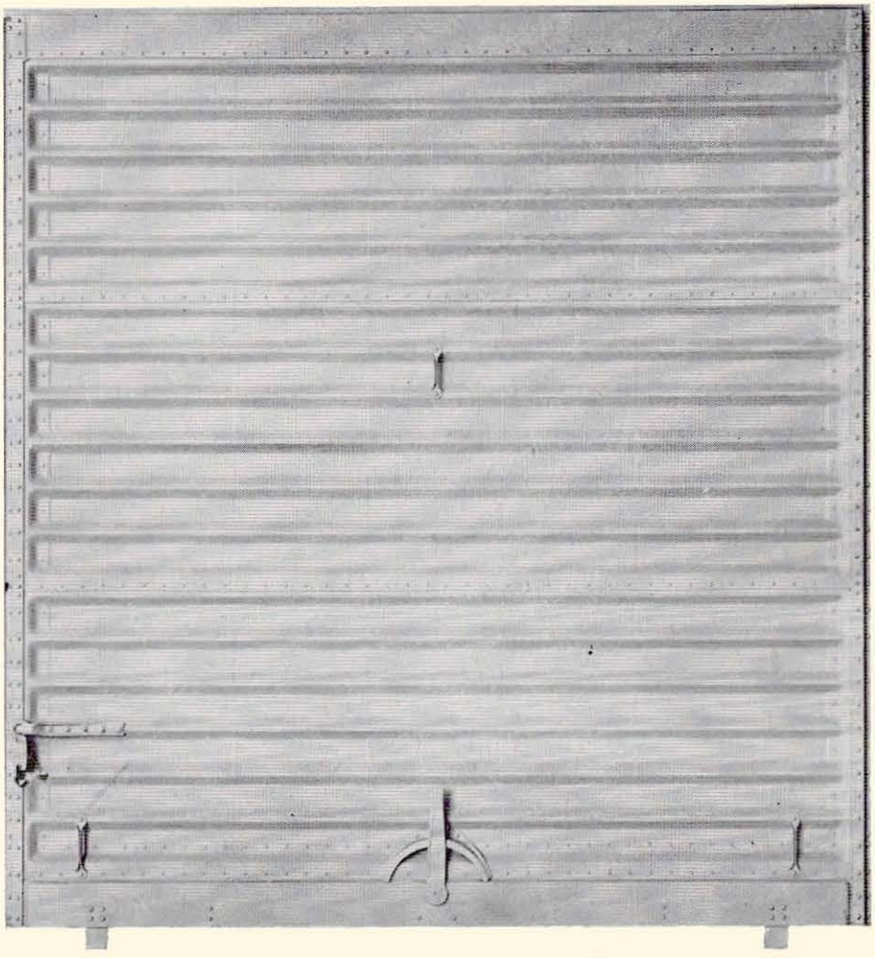
Mandatory change not justified—By C. M. House p.15

New conditions need new tactics—

By the Mechanical Division, AAR p.19

A DECLARATION OF FAITH

REAFFIRMING ITS FAITH IN THE DESTINY OF THE RAILROADS OF AMERICA YOUNGSTOWN CONTINUES AND EVEN ACCELERATES ITS RESEARCH AND DEVELOPMENT PROJECTS, THE GOAL OF WHICH IS NEW AND IMPROVED PRODUCTS AT LESS COST FOR THE RAILROADS.



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Week at a Glance CONT.

Current Statistics

Operating revenues, eight months	
1958	$6,163,751,500
1957	7,046,516,187
Operating expenses, eight months	
1958	4,982,860,039
1957	5,514,763,914
Taxes, eight months	
1958	589,740,658
1957	736,630,251
Net railway operating income, eight months	
1958	392,812,871
1957	615,496,115
Net income estimated eight months	
1958	278,000,000
1957	475,000,000
Average price 20 railroad stocks	
Oct. 14, 1958	96.03
Oct. 15, 1957	76.95
Carloadings revenue freight	
Forty wks., 1958	22,829,237
Forty wks., 1957	27,883,885
Average daily freight car surplus	
Wk. ended Oct. 11, 1958	19,354
Wk. ended Oct. 12, 1957	12,660
Average daily freight car shortage	
Wk. ended Oct. 11, 1958	6,200
Wk. ended Oct. 12, 1957	1,869
Freight cars on order	
September 1, 1958	25,611
September 1, 1957	79,258
Freight cars delivered	
Eight months, 1958	32,533
Eight months, 1957	67,894

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Short and Significant

Car utilization in piggyback service . . .

continues to far outrun that of conventional cars. Some TOFC cars are now averaging around 175 miles a day. One forwarder in Plan III piggyback is getting better than 400 miles daily. By contrast, the average mileage per freight car day in 1957 (all cars) was 47 miles.

Burlington piggyback . . .

continues to expand at a brisk pace. CB&Q, which handled 10,500 loaded trailers in 1956 and 15,700 last year, expects 1958 volume to hit the 25,000 mark. The road's latest piggyback proposal (now under ICC suspension): to handle shipper trailers on railroad-owned flatcars between Chicago and the Twin Cities at a charge per trailer in roundtrip service. It's a variation of the transcontinental shipper-trailer, shipper-flatcar TOFC program which also involves a stipulated charge per car.

C&O will introduce 'discount dining' . . .

on three streamliners in its Central and Eastern regions this week. Meal coupons that can be purchased along with railroad tickets will entitle passengers on the "Sportsman," "FFV," and "George Washington" to savings of 20 per cent on breakfast, lunch and dinner. The plan, says C&O General Passenger Traffic Manager Hiram T. Askew, permits the traveler to pay for his whole trip "right at the C&O ticket office, with no hidden extras."

The Great Lakes ore shipping season . . .

is headed for an early closing this year, probably between mid-November and Dec. 1. High inventories, the slump in steel production and a late start to the lake shipping operation already have combined to put rail ore loadings far off the pace of previous years.

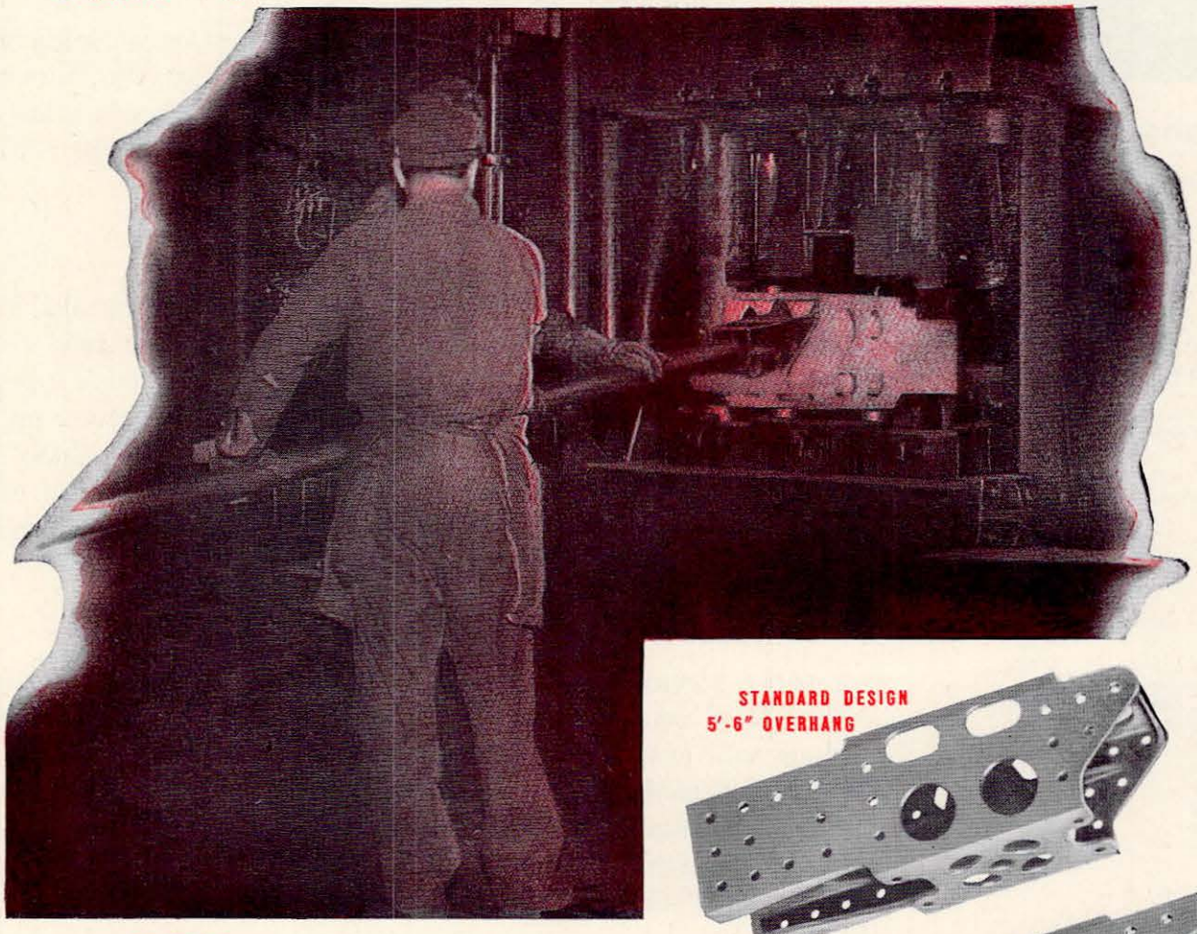
B&M has sold 40 passenger stations . . .

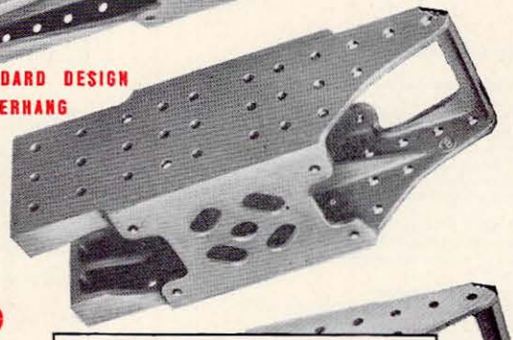
and has another 100 on the block. When completed, the station-disposal program will save the railroad an estimated $1,000,000 a year in maintenance and other costs. Each sale includes a lease-back arrangement guaranteeing adequate passenger facilities as long as the need exists.

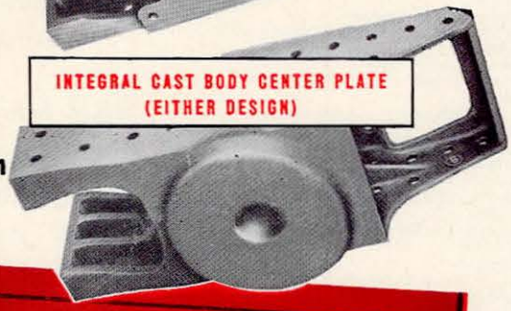
The 34-story New York Central Building . . .

at 230 Park Avenue, New York City, has been leased to a Manhattan real estate investor for a period of 50 years. Although the railroad will lease back space it now occupies, the name of the structure will be changed to the New York General Building. Total rentals during the 50 years will exceed $150,000,000. A New York landmark for nearly three decades, the building has 141 tenants.

Check the ECONOMICAL ADVANTAGES!







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Union Chiefs Blast Hosmer Report

RLEA prepares to file strong exceptions to ICC examiner's gloomy passenger service forecast. Labor's position: the report reflects management's 'deliberate' effort to get rid of passenger trains.

Railway labor leaders are fighting back, in the wake of the ICC examiner's report predicting the near-future demise of railroad passenger service.

The Railway Labor Executives' Association has directed counsel to file "strong exceptions" to the report. G. E. Leighty, RLEA chairman, indicated that labor's objections will be filed by Oct. 23. An RLEA announcement last week termed the report "biased," said it reflects the railroads' "deliberate effort to eliminate passenger traffic."

(In Chicago last week, the Railway Progress Institute was said to be preparing a statement on the so-called Hosmer Report. Previously, RPI President Holcombe Parkes had described the report as "discouraging and unbelievable.")

Railway brotherhood leaders had harsh words for the report, for government practices and for railroad management. From the comments of two union presidents, however, the labor slant seems to be that the examiner could hardly have reported otherwise, with the testimony before him from railroad management. Management—and government transport policy—both came in for severe criticism from the brotherhood chiefs.

Coincident with the attack on the Hosmer Report came an RLEA announcement that a new public relations program has been approved. RLEA's instructions to its PR director are "to concentrate immediate efforts on exposing the falsity and bias of the charges of 'featherbedding' made by railroad management," and to assist a new RLEA safety committee's efforts "to eliminate the conditions which have led to a recent rise in railroad accidents."

RLEA's chairman reserved immediate comment on the Hosmer Report situation. Other railway labor chiefs, principally those with the operating brotherhoods, were less cautious.

H. E. Gilbert, international president of the BLF&E, scorned Examiner Howard Hosmer's comment that if the public's preference for motor and air travel "is undermining the potential value of railroad passenger transportation to the national defense, this situation should be fully disclosed so that it may be recognized as a calculated risk."

"It's disturbing to me," Mr. Gilbert declared, "that certain officials in government employ recognize the need for a transportation system by rail that is adequate to supply our needs in case of war, but they dismiss the danger of an inadequate system as a 'calculated risk'."

The BLF&E chief said he is "alarmed at the do-nothing attitude of defense officials and railroad management. We are not building new railroads. Instead, we are tearing up tracks and letting the remainder carry the load."

Mr. Gilbert blamed the decline in passenger operations on "short-sighted" government policy and "apathetic" efforts on the part of rail management to sell train travel to the public.

Some means must be found, he said, to restore an even balance to the "unfair competition" facing the railroads. Subsidies may not always be palatable—but some form of aid may be necessary "if rail passenger service is to survive."

He added: "The railroads are not blameless. They can see only slim profit margins and make only perfunctory efforts to sell the service."

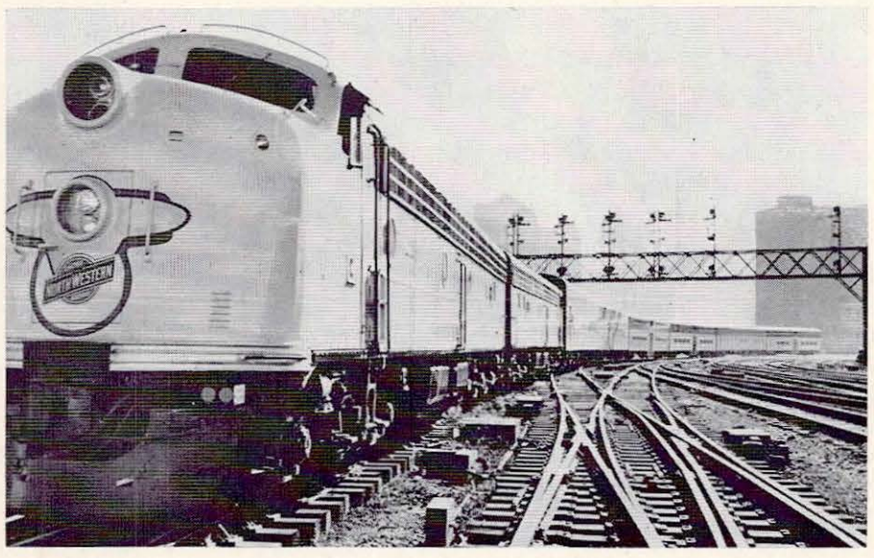
Guy L. Brown, grand chief of the BLE, also leveled in on Examiner Hosmer and the railroads.

"The examiner," he declared, "waded through an ocean of carrier testimony and perhaps should be forgiven for apparently drowning in it."

He called the Hosmer Report "far from complete" and added:

"The ICC is a public agency, not a mouthpiece for railroad management and it is to be hoped that the commission, before adopting or rejecting all or part of the report, will give careful consideration to questions of the public interest involved in the railroad passenger problem."

He went on to say: "I object to the examiner's observation that the railroads generally have done everything they could to encourage passenger travel and have asked for train-offs and abandonments only as a last resort. That is what the railroads would like the official agencies to believe . . ."



C&NW Shows Off Its New 'Bi-Levels'

In Chicago last week, the Chicago & North Western unveiled $2,500,000 worth of optimism about the future of the railroad passenger business: a pair of new "bi-level" streamliners that will go onto revenue service Oct. 26. One of the new trains will make a round trip daily between Ishpeming, Mich., Green Bay, Wis., Milwaukee and Chicago. The other will make a daily round trip between Green Bay, Milwaukee and Chicago. Builder was Pullman-Standard.

Federal Aid for RR Passenger Service?

New Haven President Alpert calls on Congress to give the railroads subsidies on a par with those granted to their air and highway competitors.

New Haven President George Alpert made a strong plea last week for government subsidies to keep passenger trains running.

"With the appropriate assistance through federal aid on a parity with that given to other forms of transportation," he told the American Transit Association in New Orleans, "the passenger service on the railroads will continue and in fact be extended for the simple reason that the public will demand it as an essential service.

"The issue," he asserted, "is not whether railroad passenger service will survive, but whether it will survive under private ownership or whether it will be taken over by the government."

He flatly rejected the idea—advanced by ICC Examiner Howard Hosmer—that passenger trains may vanish in another decade. His own prediction:

"Recognition of the injustices which have been imposed upon the industry by subsidizing its competition and giving large tax concessions to its competition must eventually come.

"Under the Federal Aid Highway Program there is no provision for matching federal funds for transportation facilities by rail or rapid transit. This is a situation which must be changed by Congressional action. The Congress and our courts have repeatedly said that an adequate and economically sound transportation system is essential for the public welfare.

"Of course the use of public funds to promote the public welfare is not only constitutional and appropriate but entirely essential. This is the only basis for the subsidies of billions of dollars which have been appropriated for the building of air terminals and runways, air traffic control, for the improvement of inland waterways, for the maintenance of our merchant fleet and for the building of highways."

In another address at the New Orleans meeting, Walter J. McCarter, general manager of the Chicago Transit Authority, dealt with the mass transportation problems in metropolitan areas. His solution: cooperative action, including cooperative financing.

Mr. McCarter outlined a two-fold program:

- Establishment of an overall transportation planning agency in each metropolitan area. Its functions: to place all forms of transportation in their proper perspective; and to work cooperatively with all public agencies in planning coordinated, total transportation facilities.
- Expansion of the responsibility and authority of existing highway agencies as total transportation agencies. This added power would be used (a) to furnish and maintain right-of-way and all other facilities up to the wheels of the vehicles for all forms of passenger transportation; and (b) to lease the exclusive mass transit facilities so provided to existing metropolitan transit operations for a token annual payment.

The cardinal point, said Mr. McCarter, "is acceptance of community responsibility for adequate and balanced transportation facilities . . . This would mean abandonment of the policy being followed in many metropolitan areas."

Watching Washington *with Walter Taft*

Mr. Taft is on vacation. During his absence, this column is being written by other members of the staff.

• **EASTERN RAILROADS** have asked the ICC to vacate its suspension of proposed reduced rates on paint and certain paint products. The reduced rates were to have taken effect Oct. 1, were suspended after truck associations filed protests (RA, Oct. 6, p. 10).

RESEARCHERS CLAIM that the proposed rates would increase railroad net earnings by $1,000,000 or more. Applied to the paint traffic actually moved by eastern roads in 1956, the reduced rates would have yielded an average charge 65 per cent above out-of-pocket costs. This is ample proof, say the railroads, that their new tariff would be fully compensatory.

• **THE SUPREME COURT** has said the last word on a government antitrust suit charging five companies and the Association of American Railroads with conspiring to monopolize the manufacture of railroad couplers. By a 7-to-1 vote, the high court upheld a district court judgment dismissing the suit.

THE COURT THUS REJECTED a government appeal from the lower court's decision. Suppliers involved were National Malleable & Steel Castings Co., American Steel Foundries, Buckeye Steel Castings Co., Symington-Gould Corp., and McConway & Torley Corp. There was no written opinion.

A RAILROAD INJURY CASE brought a dissent from Justices Whittaker and Burton. Although a 7-to-2 opinion found that the Terminal Railroad Association of St. Louis was negligent in a platform accident involving an employee, the dissent read, in part: "To hold that these facts [cited in the dissent] are sufficient to make a jury case of negligence under the [Federal Employers' Liability] Act is in practical effect to say that a railroad is an insurer of its employees. Such is not the law." This is one of the stronger dissents that have come down in such cases in recent years.

THE COURT AGREED TO REVIEW a decision that railroad employees who resign from a union must file a special form obtainable only from the union before they can stop salary deductions for union dues.

• **NEW B&O RATES** on piggyback service—in which the shipper provides both the freight containers and the flatcars on which they are carried—become effective this week. The rates drew a protest from the Eastern Central Motor Carriers Association—but the ICC voted last week not to suspend them.

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In addition to direct savings these systems insure protection for bridges, structures, CTC, interlockings, and for the consist itself.

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Pads vs. Waste—Debate Goes on

Action taken by the AAR Mechanical Division in June 1956—banning the use of loose waste packing on new and rebuilt cars after August 1, 1957, and on all cars after January 1, 1960—set off a controversy that still continues. Railway Age is happy to open its pages to the following discussion in which spokesmen for various points of view set forth their opinions.

1 **"The hot box problem can be . . . all but eliminated without resort to novel and inadequately proved devices...Experience indicates that revolutionary remedies...often prove extremely costly."**—*By W. R. Compton, Jr., executive director, Institute of Thread Machiners*

(Page 14)

2 **"We do not believe . . . the railroad industry is justified in spending millions of dollars to meet the present requirements that all cars must be equipped with lubricators by Jan. 1, 1960."**

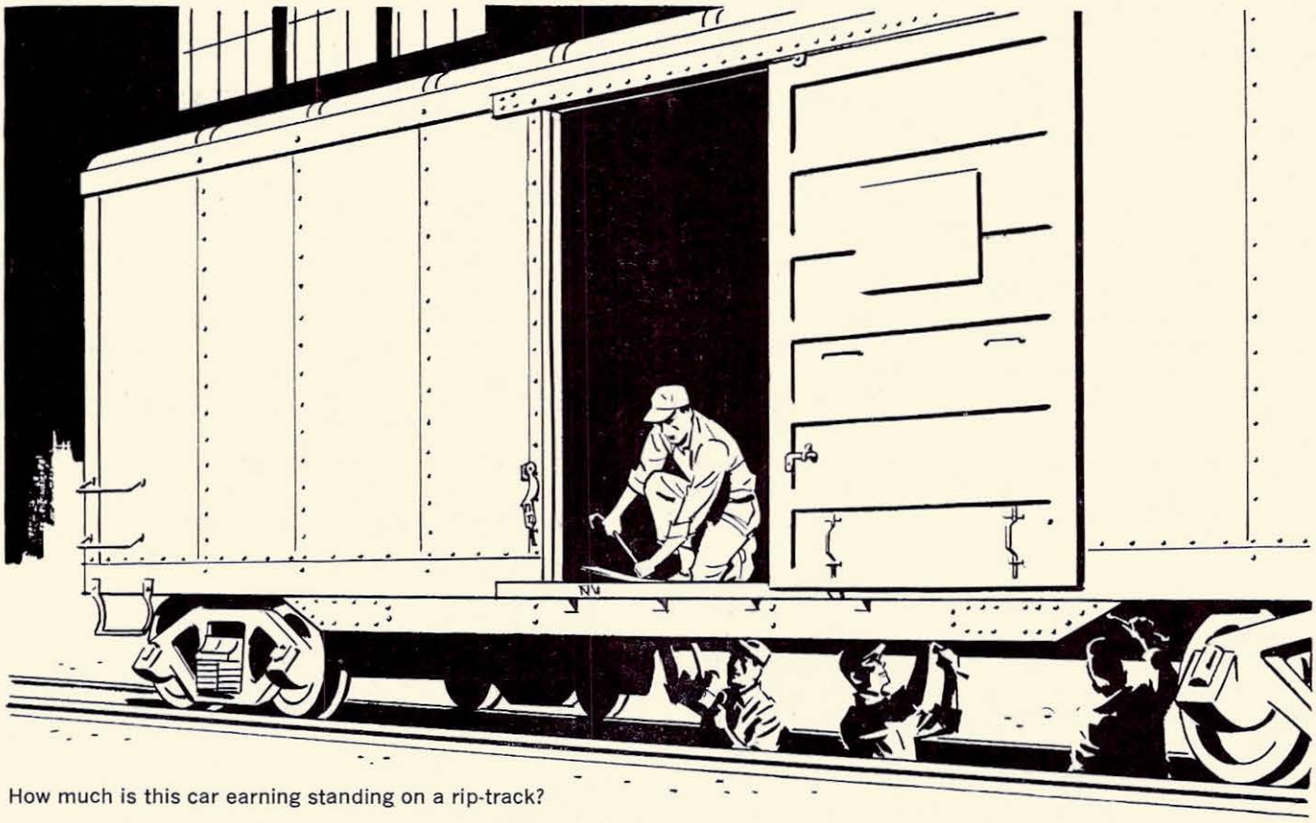
—By C. M. House, general superintendent of motive power and car equipment, GM&O

(Page 15)

3 **"Everything that can be done to improve journal bearing operation must be done without delay...To add to the delay seems to be another way of extending the unsatisfactory performance of waste packed journal boxes."**—*By the Mechanical Division, AAR*

(Page 19)

Full Stories Begin on Page 14 ▶



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Why Are Substitutes Necessary?

Net income of Class I railroads in March 1958 was $24,000,000, compared with $71,000,000 in March 1957. Forty-one of these railroads failed to earn interest and rentals in the first quarter of the year. In these desperate circumstances it is more important than ever before to look carefully at any ruling involving the expenditure by the railroads in an 18-month period of $80,000,000 to $100,000,000 and inquire: Will it pay a profit?

The ruling referred to is that in AAR Letter Ballot Circular DV 1348 requiring installation by January 1, 1960, of new approved journal lubricating devices to replace so-called "loose" packing on all freight cars in interchange service.

It is fair to ask why the new lubricating devices have succeeded in dominating the picture despite the fact that thread packing has proved its efficiency in billions of car-miles of service while the suppliers of thread packing are providing material superior in quality to any previously available. Why has it seemed necessary to devise substitutes for a method of lubrication which, with the modern adjunct of the journal stop, provides maximum lubricating effect, minimum use of oil, and stability of the journal assembly which sharply reduces mechanical wear and maintenance costs?

One reason is that there has been some failure by railroads, generally, to meet AAR Renovated Packing Specifications. The majority of old packing has been renovated too many times, and thus has lost its strength, resiliency and absorptive capacity. Like many things which wear, there is a time when it should be discarded. Otherwise, even when renovated, it degrades the new packing with which it is mixed. Then, too, there has been prevalent neglect to follow the specified procedure for inspection of renovated packing.

What Causes This Kind of Neglect?

What has caused these several aspects of neglect? Misguided economy, for one thing; in some areas a withdrawal of reasonable attention to thread-packed journals and a corresponding increase in concentration on the numerous new devices.

Pads and other lubricating devices have been in use for several years. Many railroads and the AAR have accumulated considerable data on their performance. There is an increasing flow of adverse criticism as experience discloses their shortcomings. Numerous railroads have had adequate opportunity to test the various devices under year 'round conditions. The distorted picture conveyed by results of carefully supervised test periods has been superseded by more realistic and representative data gathered during periods of extreme heat and cold.

Prominent among many criticisms directed at lubricator pads and devices is their inability to retain and feed oil. Lack of tightness in the rear seals and loss of oil through the fillet end of the journal make oil consumption high and may cause loss of resiliency, which is frequently mentioned. Still more serious is their lack of stability. In many instances, pads are reported to have a marked tendency to shift and become permanently displaced in the journal box, causing undue wear. There is also wear from contact with the collar. The distortion and unseating during humping, long slack runs and other severe operating conditions, leads to damage to the journal box assembly. The diversity of types complicates reclamation, compared with the simple and standardized method of renovating thread packing. For the same reason, maintenance service is more difficult and, therefore, more expensive.

The consequence has been that in many instances the pads have been replaced after only a few months in service. Pads and similar lubricating devices do not have the natural oil-absorbent and oil-feeding qualities of natural cotton thread packing. As an offset to this disadvantage they cannot cause wrap-ups when displaced, as thread packing can. However, this inconvenience in thread packing in the "loose" form is completely eliminated when it is held permanently in position by a journal stop.

Thread Packing Has Two Functions

Full-specification new and renovated thread packing, properly mixed in conformity with AAR specifications, combined with a journal stop, has two functions which it fulfills with demonstrated efficiency and reliability:

(1) Thread packing absorbs, retains and gives off oil naturally; (2) The journal stop stabilizes the journal assembly, eliminates "loose" packing by retaining the thread beneath it, reduces wear on bearings by preventing constant reseating due to disturbance of lining by journal displacement, maintains an effective oil seal, reduces oil consumption, reduces frequency and cost of service. Hot boxes are all but eliminated. On the rare occasions they occur they are generally found to be due to foreign inclusions or mechanical defects in the journal assembly. For example, one major railroad in separate tests over two and five years, using thread packing and journal stops, reported no hot boxes and no bearing replacements.

Journal stops, aside from holding thread packing in place, prevent so much wear on bearings, journals and wheels that their cost can be written off in 2 to 2½ years in terms of reduced maintenance. This is without reference to their function in facilitating lubrication and reducing oil consumption. While the journal stop is not a container, it makes a container and retainer of the journal box, just as a stopper or cap closes an otherwise open bottle. Meanwhile, the journal stop prevents significant oil loss by minimizing relative movement of journal assembly parts. Journals and bearings are held in proper relation under all conditions, however severe, and oil continues to feed through channels in the face of the journal stop.

The AAR Lubrication Committee, reporting on two tests of 53 and 63 months' duration, said wear on the journal stops used therein is so little as to indicate that the stops are good for the life of a car.

What Various Railroad Tests Show

A prominent railroad reports on several cars running for 6 years equipped with journal stops and thread packing: "These cars will perform better than those equipped with lubricating pads. Journal stops will definitely extend bearing life."

Another railroad reports on journal stops after 63 months of service: "The journal bearings were in excellent condition." (This is 21 months above the national average for bearing life without stops.)

A test covering 51,000,000 car-miles on home rails shows no hot boxes except for two cases due to bearings defective on delivery. With similar exceptions, the record in foreign line service was equally good.

A test covering 1,550 cars during 24,350 car-months in home rail and foreign line service showed no hot boxes.

The AAR Lubrication Committee reported at the 1956 annual meeting that from inspections made and data furnished, it is indicated that the journal stop is a satisfactory waste retainer. The committee had previously reported that the journal stop adequately retained thread packing in place, thus avoiding waste grabs.

One major railroad made an exhaustive study of costs, comparing journal stops and thread packing with lubricators on a 36-month renewal basis. Total cost per car for installed and renewal bearings, lubricators, journal stops and thread packing show the following figures: journal stops and thread packing (36-month basis) $290.41; lubricators (36-month basis) $588.61.

Several points should be noted in connection with this study: (1) Journal stops require no renewal as it has been stated earlier that they are usable for the life of the car. (2) If the cost of the stops were removed from the total cost it would be reduced to $193.41. This can be justified on the basis of earlier statements that they save their cost in economies on journals, bearings and wheels. (3) The figures do not include the cost of oil used in service. This is demonstrably much higher with lubricators than with journal stops and thread packing.

Regardless of these considerations, the figures show that stops and thread packing cost less than half as much as lubricators on the 36-month basis.

Hot box set-off figures, as they have changed over recent years, bring the lubrication problem into clear focus.

Here are the figures for 1954 and 1957: 1954—247,932 miles per hot box car set off; 1957—182,435 miles per hot box car set off.

Maintenance Procedures Neglected

It is during the period covered by these figures that various types of lubricators have been increasingly used and that maintenance and renovation procedures which insure good performance of thread packing have been increasingly neglected.

This condition lends emphasis to the words of R. W. Seniff, manager of research of the B&O, who stated: "I believe the standard AAR journal box assembly offers one of the best opportunities available on American railroads today for improvement in performance and reduction in costs. It appears that the toughest part of the job is psychological . . . namely the problem of getting into the state of mind to do it, and staying in that frame of mind . . ."

Research Will Show How to Do It Better

William Keller, executive vice chairman, AAR, Mechanical Division, stated: "Research will show how to do better the things that are not changed and how to change those things which should be changed to obtain improvement . . . Change for the sake of change is not economical and not in the tradition of American railroading."

It might well be added that change is not in the tradition of any industry in which capital investment in equipment is such a predominant part of the total investment.

Development of journal stops to be used in conjunction with thread packing is in the tradition of change for improvement, not revolution for the sake of change. The journal stop answers the AAR requirement for elimination of loose packing. It precludes the necessity for investing many millions of dollars in a variety of pads and lubricators not proved in service and which must inevitably introduce many complications into an already difficult business.

The hot box problem can be ameliorated—all but eliminated —without resort to novel and inadequately proved devices. Success on all roads will depend on:

(1) Education of personnel as to proper initial application of thread packing; (2) Full compliance with AAR instructions on renovated packing to assure maintenance of quality; (3) The use of journal stops with full-specification thread packing.

Experience indicates that revolutionary remedies to counteract frustration often prove extremely costly while blinding the user to simple remedies for achieving the same or better result.

—W. R. Compton, Jr.

Mandatory Change Not Justified

2

The monthly Freight Car Hot Box Data compiled by the Mechanical Division of AAR is definitely not to be used to compare the performance of one railroad with another. It does afford a method of following the progress of railroads as a whole. It also furnishes an excellent method for determining the progress of individual railroads by comparing one month's record with previous corresponding months.

We have noted special reports from various railroads showing that the miles per hot box set off between division terminals for cars equipped with lubricators are from three to six times "better" than cars equipped with loose waste. We would, therefore, expect railroads with a considerable number of lubricator-equipped cars to show outstanding improvement in their individual overall hot box records as reported by the AAR.

One railroad that reports having over 80% of its cars equipped with lubricators also reports three times better record for lubricators than loose waste. This railroad had more than 40% of its cars lubricator equipped by the end of 1956. However, during 1957, eight of the twelve monthly hot box records were poorer than the corresponding 1955 months, which was prior to extensive application of lubricators. The 1957 record for miles per hot box was less than 5% better than for 1956. Also, two of the first three 1958 months show poorer performance than 1957, while the national average shows an improvement for each of the first three months in 1958.

Another railroad that reports having more than 50% of its cars equipped with lubricators also reports about six times better performance on lubricator equipped cars than those with loose waste. The majority of these applications were made in 1956 and 1957. However, AAR records for this railroad show eleven 1956 months poorer than 1955, eleven 1957 months poorer than 1955, and nine 1957 months poorer than 1956.

National Average Shows an Improvement

The national average for the first time in several years is showing an improvement. This has been the condition for the past six months, yet the above railroad had a poorer record for two of these months.

One of our larger railroads, that has only 10% of ownership equipped with lubricators and had only 3% as of January 1957, has shown an improvement for eight of the last nine months.

The GM&O, which has only a token number of lubricator

Continued on page 19 ►

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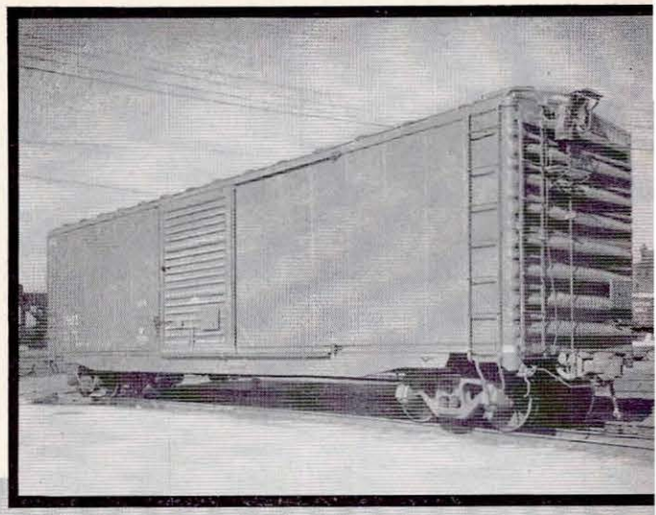

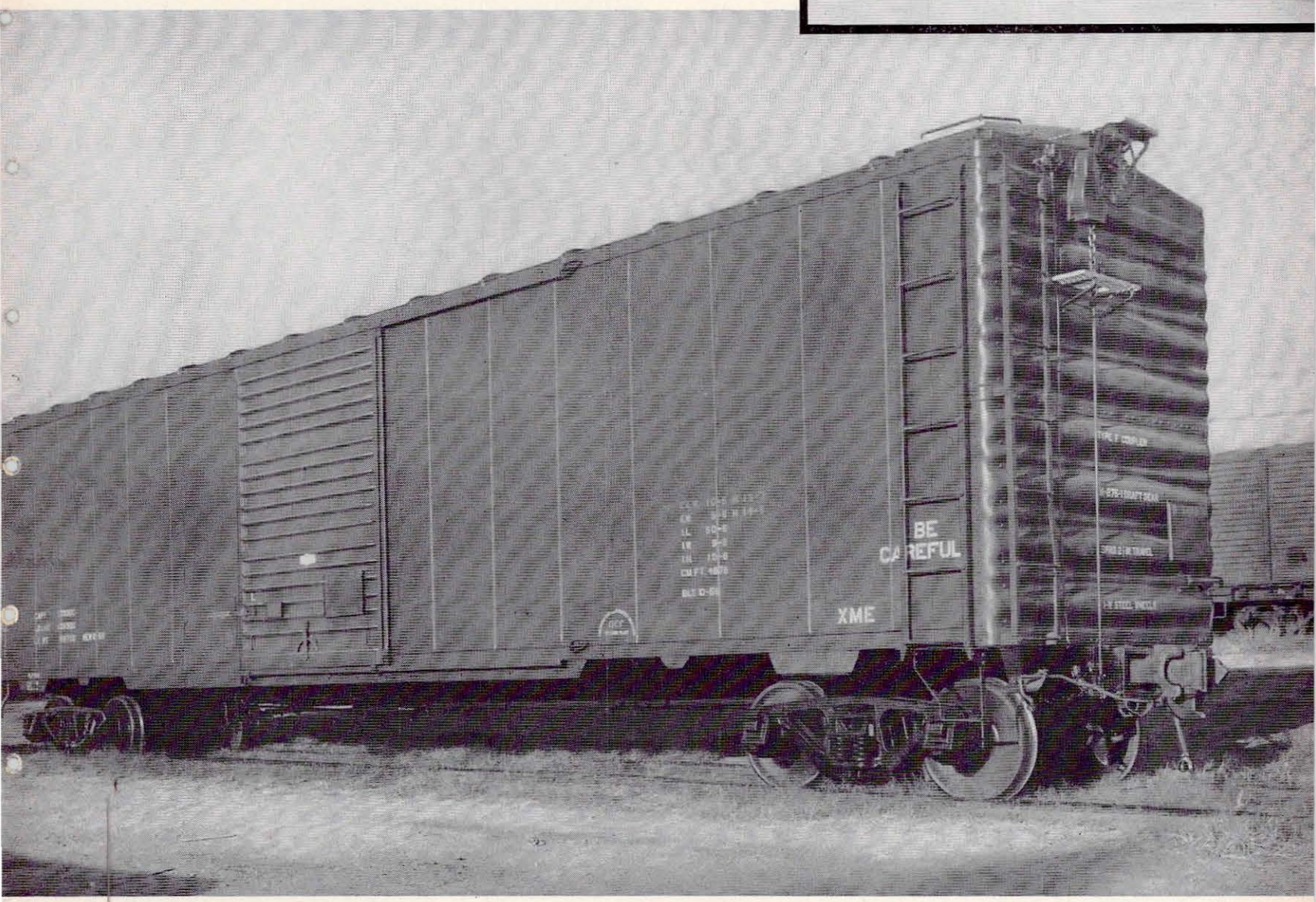

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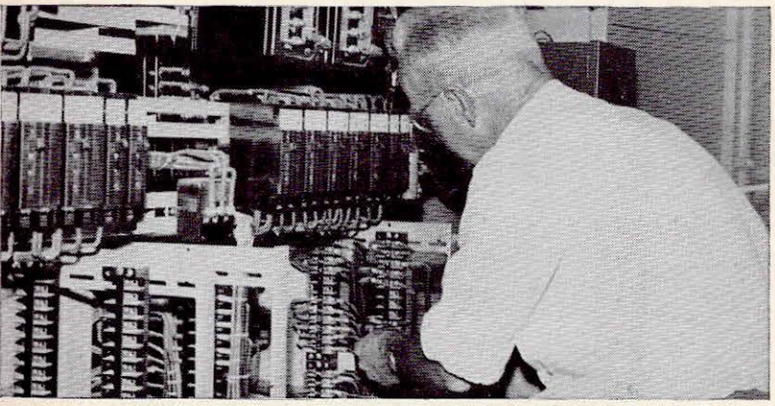

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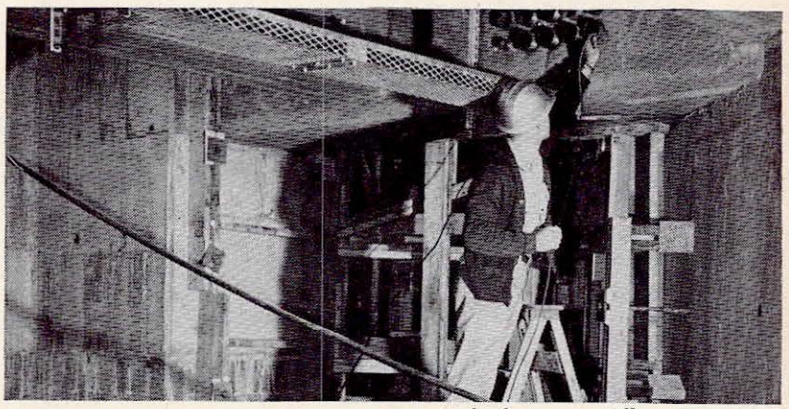
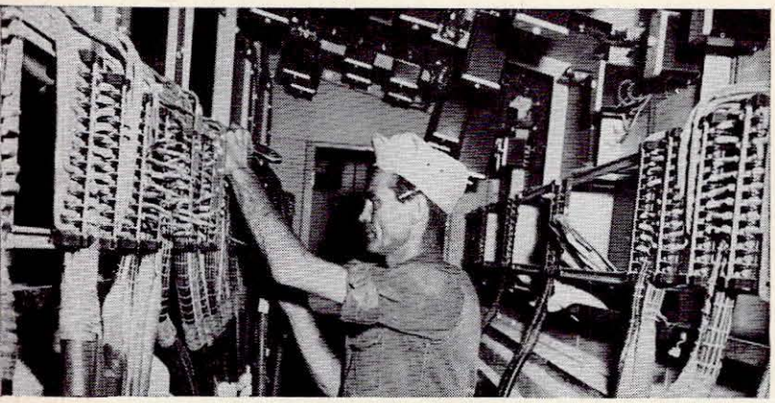
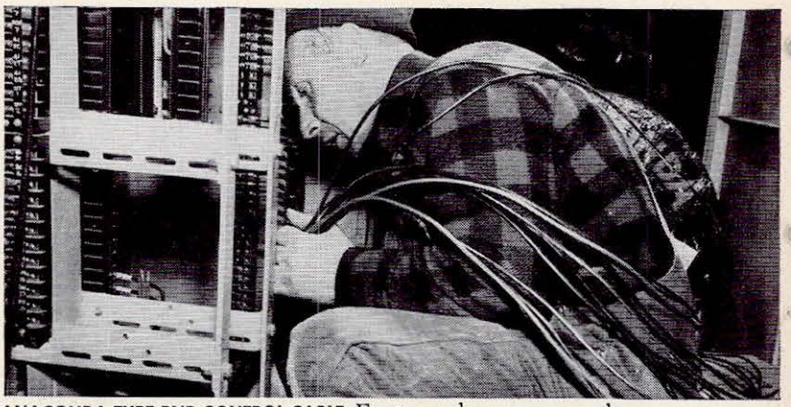


ANACONDA THERMOPLASTIC CONTROL CABLE. Multiple-use: aerially, in conduit, underground in ducts, direct burial in earth. Available with polyethylene (600 or 1000 volts) or Densheath* vinyl resin (600 volts) insulation and Densheath over-all jacket. Densheath jackets over polyethylene-insulated conductors on request.



ANACONDA BUTYL-INSULATED CONTROL CABLE. Ozone-resistant control cable. Individual conductor covering and over-all jacket of neoprene provide maximum insurance against moisture, mechanical injury. High-quality product with outstanding performance record.



ANACONDA TYPE PND CONTROL CABLE. For general-purpose use where space is limited. Allows installation of a 12-conductor cable in conduit carrying a 6 or 7. Individual conductor covering of abrasion-, oil-, gasoline-resistant nylon. Over-all Densheath jacket.

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TYPE AND VOLTAGE RATING	CHARACTERISTICS	GENERAL APPLICATIONS	INSTALLATION METHODS
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Rubber-Insulated 600-Volts	Excellent moisture, heat resistance. Long-aging.	General-purpose and station control requirements.	Installed aerially, in conduit, underground in ducts—or buried directly in earth.
Ozone-Resistant Rubber—Insulated 600-Volts	Ozone-resistant. Proved moisture resistance, heat stability. Long-aging.		
THERMOPLASTIC—Insulated Control Cables			
Polyethylene-Insulated 600-Volts	Excellent moisture and chemical resistance. Highly resistant to electroendosmosis. Long-lived.	General-purpose control requirements.	Installed aerially, in conduit, underground in ducts—or buried directly in earth.
DENSHEATH®-Insulated 600-Volts	Thermoplastic cable. Excellent moisture and chemical resistance. Long-aging.		
Anaconda Type PND* Polyethylene-Insulated-Nylon Conductor Cover 600-Volts**	Dependable chemical and abrasion resistance. Small diameter. Long-aging.	General-purpose control requirements where space is a limiting factor.	Installed aerially, in conduit or underground in ducts.
Polyethylene-Insulated 1000-Volts	Peak moisture and chemical resistance. Heavy insulation thickness. Long-aging.	Station control requirements.	Installed aerially, in conduit, underground in ducts—or buried directly in earth.

**IPCEA voltage rating is 300 volts.
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FOR **CONTROL CABLE**

Pads vs. Waste (*Continued from page 15*)

applications, has had an improvement in hot box performance for five of the last six months.

If lubricator applications have such outstanding individual performance records, why then do railroads having a high percent of lubricator installations fail to show comparable improvement in the AAR records?

Could it be that inadvertently the major portion of lubricators have been applied to cars that would have had good hot box records with either waste or pads, such as new cars, rebuilt cars with reconditioned trucks, etc.? Do the individual records of the reporting railroads actually reflect the true comparative performance of loose waste versus lubricators?

For the first time in several years the average national hot box performance is showing some improvement in spite of several years' operation with improved car oils, step size bearings, lubricators, etc. However, this improvement coincides with the period of increased car storage. Could it be that this improvement is considerably affected by the non-use of "old" cars that had the higher incidence of hot boxes?

We do not believe the hot box performance to date indicates the railroad industry is justified in spending millions of dollars to meet the present requirements that all cars must be equipped with lubricators by January 1, 1960.

—C. M. House

New Conditions Need New Tactics

In separate articles which appear in this issue of Railway Age, Messrs. C. M. House, and W. R. Compton have presented certain views which imply it would be better to continue use of the old method of lubricating freight car journals by means of loose waste journal box packing rather than by journal lubricating devices. Representatives of the AAR Mechanical Division, as well as representatives of the AAR Research Department, have been privileged to review both articles before publication. The AAR has been given the opportunity of presenting comments pertaining to these discussions. This pleases us very much. We feel that through discussions of this nature interested readers will have an opportunity to review all factors involved in this question and be in a better position to judge whether the programs sponsored by AAR committees are steps in the right direction.

Criticisms have been made about the progress in reducing hot boxes. There are those who would stand still and make no changes. But we have changing conditions. Train speeds are higher. Intermediate stops are fewer and of shorter duration. Both create more severe journal and lubrication conditions. Therefore, unless something tangible is done we would not even stand still. We would have to fall back.

Hot Box Problem Is Not a New One

The hot box problem has been discussed for a long time. Various opinions have been expressed on how to improve operation of plain journal bearings. Unfortunately, these opinions have seldom been supported by scientific data. The result has been that for over 75 years this expensive and troublesome problem has not been greatly changed. Uncertainty as to the value of the suggestion accompanied each proposal for changes. There was, therefore, a natural timidity to accept any change. In spite of definite information now developed on the problem, timidity and uncertainty still exist in some places.

Realizing that some basic information was needed, the AAR Board directed that a study on this problem be placed with the country's outstanding research institutions. Armour Research Foundation and the Franklin Institute were selected to assist the AAR. After a two-year investigation, using some of the best scientists in the country, a series of recommendations was made. Since this article is directed to only one phase of the problem, namely, shall loose waste be continued as a lubrication medium after failure to improve its performance over decades—only conclusions in the studies relating to this particular item will be discussed in this article.

One of the four major conclusions of the Armour report was: "Eliminate or greatly reduce the friction heat produced by the waste pack." Under recommendations in this report was the following: "Eliminate the waste pack method of lubrication as soon as substitute methods are considered acceptable for large scale service use." Obviously, work done on this problem was so extensive and conducted by such capable personnel that there was no doubt elimination of loose waste packing was necessary if any significant change was to be made in the performance of journal bearings.

Based on Scientific Evaluation

These conclusions were not reached without scientific evaluation. A patient who seeks help and pays good money for the advice of expert physicians to cure his illness of long standing, and then disregards such expert advice and proposed form of cure, is generally looked upon as somewhat lacking in perspective.

Messrs. House and Compton have referred to general statistics. Performance figures from certain periods have been compared with figures from other periods carefully selected by them as a means of proving their points. Since all conditions which affect hot box performance are never the same in any given period, compared with any other selected period, comparisons such as those made in their two articles are of limited value.

No other period in railroad history has experienced such rapid changes in train schedules as have been made during the past few years. These accelerated train schedules are absolutely necessary in the face of present demands of the shippers. But they obviously leave less time for service treatment of waste-packed journal boxes than was possible with slower schedules. Therefore, since train schedules cannot be disrupted in the face of today's competition, and since more servicing points to look after waste packed boxes would result in delays, it is obvious that loose waste journal box packing cannot meet the new requirement. To this end, an orderly program has been established which will be of benefit. Cars equipped with journal lubricating devices do not require such constant service treating and attention.

Figures used by Mr. Compton are not detailed. No comment would be pertinent because of lack of detail. The use of the journal stop is suggested as a corrective measure for loose waste

(*Continued on page 22*)

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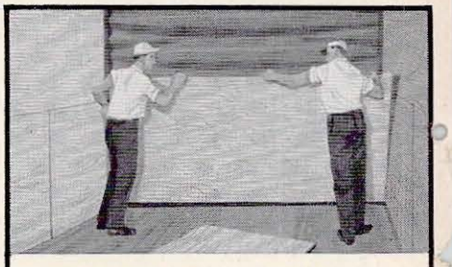
Only Exterior Fir Plywood car lining has all these advantages:



LOW COST—Easy to install fir plywood lining speeds work.. saves 50 per cent and more in labor costs alone.

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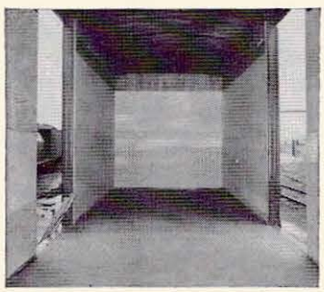
Labor time averages 8 to 10 hours per car, including preliminary framing, relining, cement coating floor.

Air operated stapling guns fasten plywood securely over old lining. Idea is new, works well, S.P. reports.



Re-lined cars have clean, smooth walls that can't snag fragile ladings such as bagged sugar or flour.

New method of stapling fir plywood over damaged lumber lining permits Southern Pacific to upgrade B and C cars to Class A carriers in only one-third the time and half the cost.

SOUTHERN PACIFIC has opened the throttle on one of the biggest car modernizing programs in its history. Work on over 400 cars is proceeding at a good clip and at remarkably low cost at the line's big West Oakland and Roseville (California) yards.

Credit for the outstanding speed and economy with which the job is being done is credited to a new technique; stapling big sheets of Exterior plywood over the old lumber lining.

The method takes only about one-third the time normally required for re-lining a car with T&G lumber—and cuts total costs just about in half. A big factor in the savings is that the old lining does not have to be torn out, as would have been the case in a lumber re-lining job.

The job is done by a two-man crew who tack panels in place horizontally so that two 4-foot wide sheets make up the required eight foot height. Since most cars are a bit over 17 feet from door frame to end, one 8-foot and one 10-foot long panel cover each course. Vertical joints are staggered. Then two more men follow up for finish stapling, shooting fastenings every six inches around panel edges and over vertical posts spaced 20 inches apart.

One of the chief advantages of the plywood-stapling method is that cars are out of service for a very short time. Beyond that, it's the best and most economical way of doing the job. But the payoff is in the more valuable ladings which can be carried in a Class A car, and it is often enough to pay off the entire upgrading cost in a single long run.

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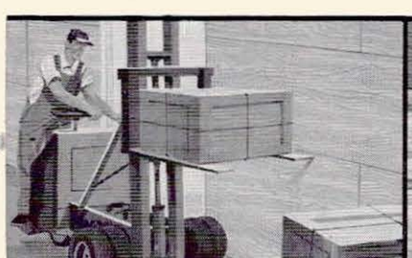


STRONG — Plywood has tremendous impact resistance . . . shrugs off blows that would split ordinary lumber.

SMOOTH — Clean, snag-free fir plywood lining pays off by yielding higher tariffs on fragile ladings.

WATERPROOF — Exterior plywood is made with waterproof marine glue, in several sizes and grades, including overlaid panels with hard, smooth, fused-resin fiber overlays.

packing, but the journal stop is helpful regardless of the lubrication media used. The journal stop performs the valuable function of keeping the bearing in central position over the journal during braking and coupling impacts. In so doing, in addition to keeping the bearing stable, it prevents damage to dust guards and journals.

Even the journal stop, however, cannot prevent the tendency to "waste grabs" in cold weather, and thread risers and lint in any weather. One laboratory test made under low temperature conditions illustrates what is often seen in the field where cars so equipped are operating in cold climates. The laboratory apparatus used in this test was designed to prove what happens under extreme conditions. Threads of loose journal box packing can, and do, cling to the rising side of the journal and rise in between the journal stop and the journal to the edge of the bearing, where subsequent impacts or loose fitting bearings will result in waste grabs.

It was generally known the AAR Research Department had been given the assignment of conducting a complete investigation of the merits of journal boxes equipped with the combination of loose waste journal box packing and journal stops and rendering a report thereon. It is unfortunate that the writing of a public article by the sponsors of loose waste could not have been held in abeyance until the report was available and studied. It is likely that a different article might then have been written. This thought is expressed because the advantage of the journal stop is not contingent upon the use of any particular lubrication media. At the present time, the merits of such devices are being reasonably stated by their sponsors.

Analysis of Estimates Is Difficult

It is difficult to analyze the estimates for expenditures given in Mr. Compton's article. Expenditures listed therein do not itemize the cost of journal stops or other details. The article shows a figure of $290.41 for journal stops and loose waste, and a corresponding figure of $588.61 for lubricators on "36 months basis." It is said these figures are for "Total cost per car for installed and renewal bearings, lubricators, journal stops and thread packing." (Page 15.) Since details on these figures are not given, no analysis can be made.

It is to be regretted that waste packing is only, at this late date, the best that can be supplied. To quote the article, "Suppliers of thread packing are providing material superior in quality to any previously available." If, however, the quality of the packing had any major effect on the number of hot boxes, great improvement should have been shown in the hot box statistics. The economy of waste packing has been stressed, but in the same article it is stated that not enough money has been spent for new waste, since the article states, "Old packing has been renovated too many times . . . there is a time when it should be discarded." Cost of material inspection is expensive. Nevertheless, the article states, "There has been prevalent neglect to follow the specified procedure for inspection of renovated packing."

The cost of this deficiency of waste packing is assigned as "misguided economy for one thing . . . in some areas, a withdrawal of reasonable attention to thread packed journals." In the economic picture, you cannot have it both ways. We're told in one part of the article that waste packing will save money, and in another, we should spend more money on waste packing.

It is doubted anyone feels that present lubricators have reached all of the potentiality that can be obtained as improved designs are devised. Nevertheless, the present designs show three to six times better performance than loose waste packing. Moreover, service attention required by loose waste packing is far greater than that required by lubricators. A lubricator has the following basic characteristics: (1) uniform pressure against the journal, and (2) captive wicking material.

In the development of suitable designs of journal lubricating devices, it was obvious to us from the very beginning that probably not all designs submitted for consideration would pass the laboratory screening test. This is a requisite for approval in limited number for road service tests. Also, it could not be predicted which lubricators would prove to be more successful in service than loose waste journal box packing. However, to finally have available a number of suitable designs, the promising device had to be given a chance to stand or fall on the basis of actual service tests.

Railroads Are Willing to Experiment

It is to the credit of the railroad industry that enough roads could easily be found to try out the various designs as they were developed. To be sure, some devices have fallen by the wayside under this fair and impartial procedure, thereby adversely affecting the performance record of lubricators in general for temporary periods. But much has been learned in the process. Deficiencies have been corrected in many designs, resulting in improved lubricators and in some new and better designs.

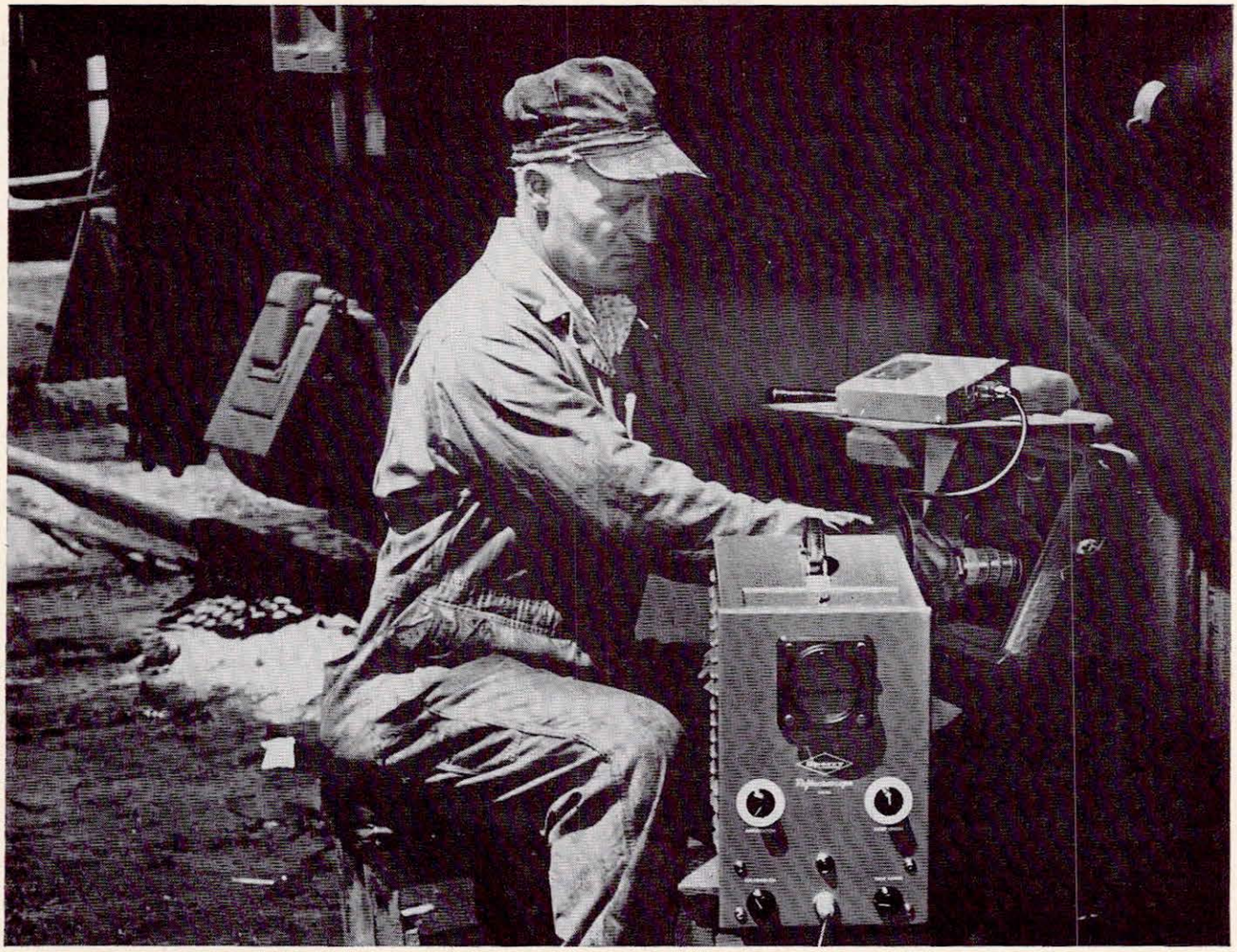
Lubricators of tomorrow will be even better than those of today. This has been definitely assured by the preparation of AAR specifications for journal lubricating devices. In due course these new specifications will be submitted to AAR member roads for approval and adoption. All basic requirements for successful journal lubricating devices could not, of course, be definitely foreseen in the early stages of this program. But they have now been incorporated into this new specification. On and after a specified date all new devices submitted for approval will have to meet these more rigid requirements. They will not be retroactive, however. All lubricators in service will be allowed to continue the length of their regular service life. Eventually, designs approved under the new AAR specifications will be used in place of the earlier designs. If there are no unforeseen changes in other related factors which have some adverse bearing on hot box performance, our record in the future with improved lubricators and more of them in service should be somewhat better.

In applying waste to a journal box, the matter of judgment of individuals is involved as to the quantity of waste used, the tightness with which it is packed under the journal, and the distribution of the waste. All are factors which affect bearing performance. With a properly designed lubricator, these factors are taken out of the hands of field forces. That they need to be taken from the "judgment" phase is evident from an examination by the AAR of 108 cars in 1958. The examination showed that five boxes had packing too tight, six had insufficient packing, and 12 had excessive packing.

A private car line recently conducted a test of lubricators in comparison with loose waste packing on new cars built in 1957. Results of this test are based on the number of cut journals reported, and these figures are:

Lubrication Media	Car Miles Operated	No. of Cut Journals	Avg. Miles per Cut Journal
Waste Packing	13,105,209	140	93,609
Lubricator	24,805,243	54	459,356
Lubricator with Journal Stop	9,818,866	0	9,818,866

(*Continued on page 24*)



New SPERRY REFLECTOSCOPE cuts time and cost on axle testing

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Pads vs. Waste

(*Continued from page 22*)

A railroad which has been active in the journal lubrication problem reports the following:

Lubrication Media	No. of Cars	Hot Boxes per 54,000 Car Months
Waste Packing	27,152	268.9
Lubricators	37,533	48.0

It cannot be assumed these figures are not representative, since they deal with thousands of cars. More examples of a similar nature could be quoted. These quotations involve cases where all cars in each of the two groups operated in the same period of time where conditions were much the same.

In other words, we have not committed the error of comparing the performance of cars equipped with loose journal box packing, operating during a by-gone period of slower train schedules, with the performance of cars operating during a period of much faster train schedules and more difficult operating conditions.

Mr. Compton's article compares 1954 and 1957 mileage per hot box set-out. It says "during the period covered by these figures the various types of lubricators have been increasingly used and maintenance and renovation procedures which insure good performance of thread packing have been increasingly neglected."

Renovation of packing is as good or better than it ever has been. Those engaged in reclamation of packing have been constantly striving to improve their process. Their efforts have been successful. Roller bearings have been increasingly used in this same period, although the author has not mentioned this point. Certainly, with roller bearings performing almost without hot boxes and pads greatly improving the performance of plain bearings, there is only one other place to assign the responsibility.

There are a number of statements in Mr. Compton's article not fortified with data. The statement that lubricators lack stability cannot be supported by an examination of lubricators in the field. It is appreciated that it is difficult to support every statement with data. But when such unsupported statements are made, they are better received if made in a less positive manner. For example, it is stated that "Inconvenience [of wrap-ups] in thread packing [when displaced] in the 'loose' form is completely eliminated when it is held permanently in position by a journal stop."

When journal stops are placed at an average of 3/32 inches from the surface of the journal, thread risers, lint and other portions of the packing can move either through the intervening space between the journal stop and the journal, or through the serrations cut in the face of the journal stop.

Mr. Compton asks if this is the right time to apply the AAR ruling on journal box lubricators. If this is not the right time, his article does not suggest an alternate date. The answer is clear. Everything that can be done to improve journal bearing operation must be done without delay. The problem has waited too long for solution. There have been years in which to take stock and make evaluations. To add to the delay by having a respite for more discussion seems to be another way of extending the unsatisfactory performance of waste packed journal boxes.

A member of the Lubrication Committee at the Mechanical Division annual meeting in June 1957 said:

"We have performance records which show that some of these lubricating devices give anywhere from two to six times the mileage per hot box that we get from standard waste packing in the same type of car in the same service.

"Now, if that isn't something worthwhile going after, I don't know why we worry about the hot box situation."

Shall we do nothing, or shall we move ahead?

—*Mechanical Division, AAR*

Railroading After Hours with Jim Lyne

THOROUGH PRESCRIPTION—I've just read an attractive PRR booklet entitled "A Constructive Program for Transportation Equality," being the text of the speech President Symes delivered at a TAA forum in Pittsburgh last month. JMS, it strikes me, does a mighty thorough job of prescribing for the railroads. Incidentally, he's impressed by the intensive railroad development going on in Russia, as reported by our Bob Lewis (issues of June 16 and 23).

Bob, by the way, is still putting on his magic lantern show on Russian railroads to various groups around the country (about 40 of them, so far). He's made the circuit to the Pacific Coast, and will show his slides to suppliers at their Union League Club luncheon in Chicago on November 7.

Thanks largely to this effort, a lot of high-placed Americans are beginning to appreciate the significance to this country of Russia's intensive development of her railways, while Uncle Sam neglects his.

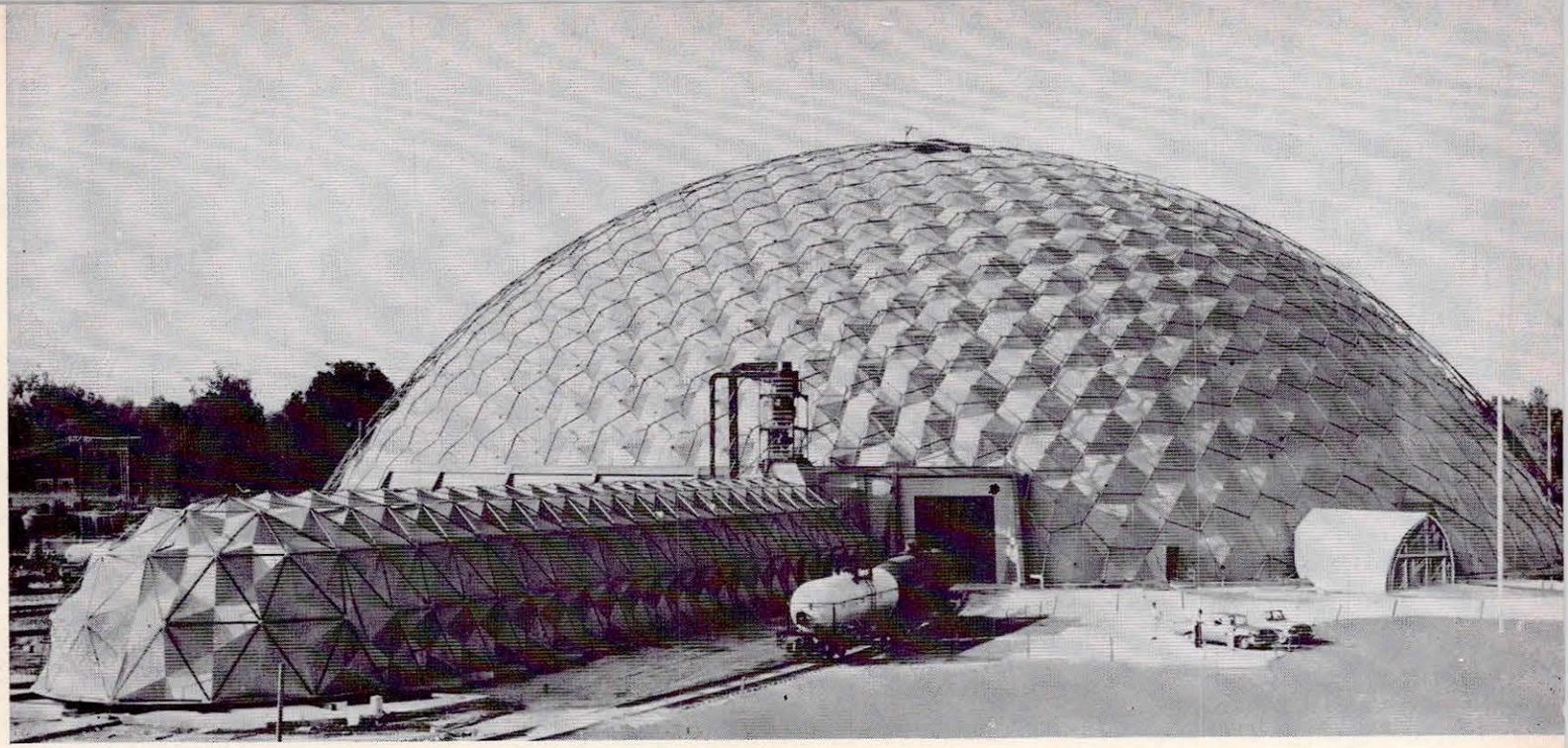
THEY DINGED THE GONG—B&O General Claim Agent P. C. Garrott says he never heard a yardmaster called a "dinger"—but in reports he gets from his Toledo office, switch lists are usually called "dinger lists."

In Toronto, CPR General Air Brake Inspector D. W. Alexander says the term "dinger" came to be applied to the yardmaster back in the days of 12-hour yard shifts. Night crews working such hours would often disappear for a nap, if work was slow—and the yardmaster would call them back to the job by "dinging" the locomotive bell. Sounds plausible.

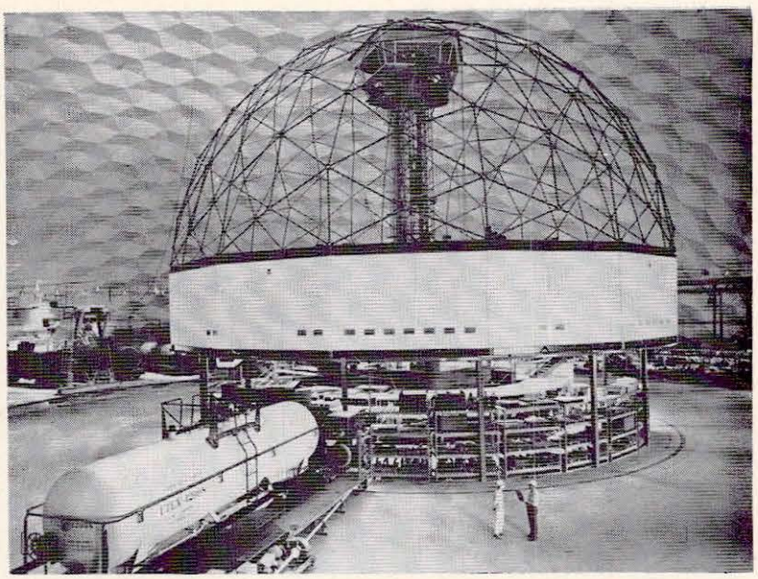
LABOR PROF ADVISES—Somebody sent me a reprint from the July Labor Law Journal—an article on labor's role in the "declining railroad industry." I don't like that word "declining," and I don't believe it's accurate. The railroads are going through an adjustment to new conditions—as the gas business did when electric light came along. If they succeed, as I believe they will, they'll get on the rapid growth curve again, exactly as gas has done.

Anyhow, this article, by Professor M. A. Horowitz of Northeastern University, says that the time is ripe for railroad managements and unions to get together, for their mutual benefit, to modernize out-dated working rules.

Incidentally, I heard a chief executive say the other day that he thought the firemen were being put on the spot unduly in current discussion of excessive crews. He believes firemen's and trainmen's jobs should be interchangeable—that there's too much craft distinction in train, engine and yard jobs.



PANEL AREA OF UNION DOME is 154,000 sq. ft. Outer portion of truss is 4-in. pipe from which ¾-in. tension rods support 11-gage sheet steel panels. The panels are painted yellow to reflect heat and maintain their tension. Outer pipe framework is painted royal blue to absorb sun's rays and increase compression.



BUILDING-WITHIN-A-BUILDING is 80 ft high and 100 ft in diameter. Above the materials storage area on the ground is the enclosed main floor with space for executive offices and employees. At the top is a central control tower. Interior of dome is painted off-white. All illumination is provided by 106 color-corrected mercury vapor lamps, 34 ft over the floor, which give an illumination level of 50 ft candles.

This Car Shop Is Built for Speed

At a cost of less than $10 per sq ft of floor area, the Union Tank Car Company has created and built an extraordinary car repair shop.

Striking in design, the Baton Rouge, La., facility has efficiency built in. It will accommodate 36 tank cars, fewer than a conventional shop of similar size; but its layout, its improved equipment and work system, give it two to three times the capacity of a normal shop.

Since a tank car company's biggest expense is repair and maintenance, this difference is crucial.

The high-capacity shop is housed in a huge and exciting dome. Union Tank says it's the largest such building in the world. The walls rise and curve upward until they join to complete the dome 120 ft above the shop floor. There are no interior supports, no posts to obstruct the view across the 384 ft diameter.

Technically, the building is a quarter sphere, constructed as a curved, three-dimensional truss. Hexagonal panels of ⅛-in. steel were fabricated on the site, then raised into position and welded together. As walls rose from ground level, a covering web of torsion bars was welded and bolted in place outside the panels.

Entire cost of the dome building was less than $1 million. For this, Union Tank has 110,000 sq ft of floor area. Tracks on the dome floor are arranged radially, not unlike those in a steam locomotive roundhouse.

Here are some of the advantages of such a layout:

- Increased mobility and smoother work flow, because there are no walls or internal supports.
- Concentration of activity with 2,160 ft of repair track in a circular area only 384 ft in diameter.

(*Continued on page 34*)

CNR Cuts Costs With Interlockings

Canadian National recently completed the first step toward consolidated interlocking and traffic control on one of Canada's heaviest traveled routes — 30 miles of double-track between Toronto and Hamilton, Ont. At a cost of $580,000, the CN consolidated two mechanical, one remote and three new interlockings, switches and signals of which were previously controlled by switch tenders. Savings of over $44,000 annually in operating expenses are anticipated from the new terminal interlocking at Hamilton, Ont.

The new interlocking is controlled from a panel-type machine at Hamilton passenger station. Additional panels can be accommodated for the two other steps in the Toronto-Hamilton signaling project: (1) Three high-speed interlockings at Oakville, midway between Hamilton-Toronto, now under construction; and (2) a traffic control system on double-track to provide either-direction running on each track by signal indication. Thus, the traffic supervisor at Hamilton will control the Hamilton-Toronto mainline and Hamilton interlocking from one machine.

This new terminal interlocking is concentrated in an area about three miles long. Double track extends west from Bayview through North Yard Lead interlocking to the Middle Switches. From the Middle Switches single track mainline runs through Hamilton passenger station to N&NW Junction, where the mainline reverts to double track east toward Niagara Falls. The line between Middle Switches and N&NW Junction was originally a double-track mainline. As a result of the new signaling, one track was released for yard operation. From Bayview, a double-track line runs west to Hamilton West, and on to London and Sarnia. The third leg of the wye is a single-track line from Hamilton West east to Hamilton Junction, where it meets the Bayview double-track line going toward Hamilton passenger station. Hamilton Junction is also the connection with the Canadian Pacific, this being a double-track line to Hamilton.

This interlocking area handles the heaviest mainline traffic in Canada, with an average of 52 passenger and 37 through freight trains (both CNR and CPR) by Bayview daily. This includes an average of 10 freight and 8 passenger trains of the CP operated over CNR tracks between Toronto and Hamilton Junction, at which point they go on to their own tracks. Two CPR freight trains operate through Hamilton Junction between Hamilton and Guelph Junction. Through manifest freights of the CNR pick up and set off cars at Hamilton. In addition to the scheduled daily trains, the interlocking also handles switchers serving industrial tracks, helper engines, way freights, and work trains.

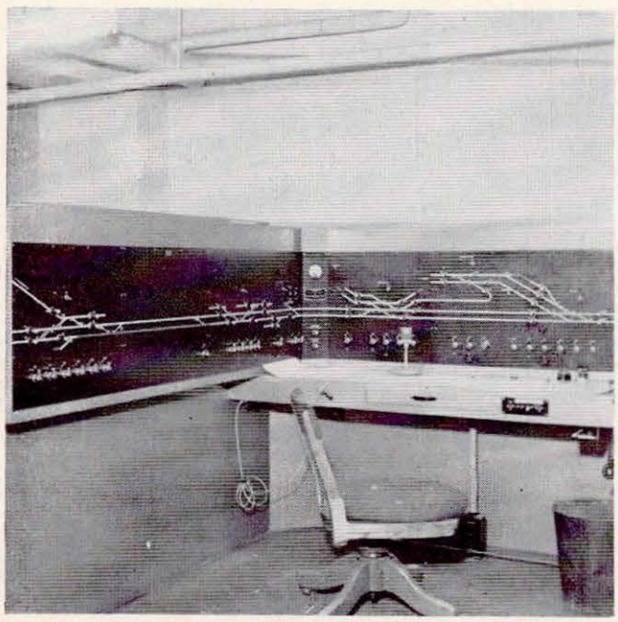
A breakdown of train movements through each interlocking is as follows: Bayview, 120; Hamilton West, 50; Hamilton Junction, 90; North Yard Lead, 84; Middle Switches, 200 (this includes moves by yard and road engines to and from the shop, and crossover moves between the North and South Yards); N&NW Junction, 70. This is a total of 614 moves every 24 hours.

Adding to the traffic problem is the fact that Hamilton Terminal is off the main Toronto - London - Chicago and Toronto - London - Detroit routes. This means Toronto passenger trains bound for London must head in and back out to Bayview before proceeding to Hamilton West. London passenger trains bound for Toronto - Montreal proceed from Hamilton West to Bayview, and back in to Hamilton passenger station before heading out and proceeding to Toronto. All these passenger trains follow this procedure, with the exception of two eastward and one westward daily trains which bypass Hamilton and make their station stops in the suburbs. Four passenger trains, in addition to freight traffic, operate daily in both directions between Hamilton, Niagara Falls and Suspension Bridge. On the Hagersville subdivision between Hamilton and Jarvis, only extra

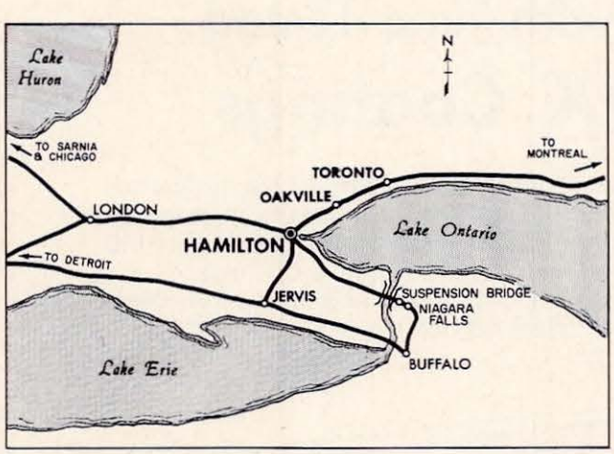
(*Continued on page 29*)

BAYVIEW INTERLOCKING, formerly a mechanical plant, is remotely controlled from Hamilton.

and CTC

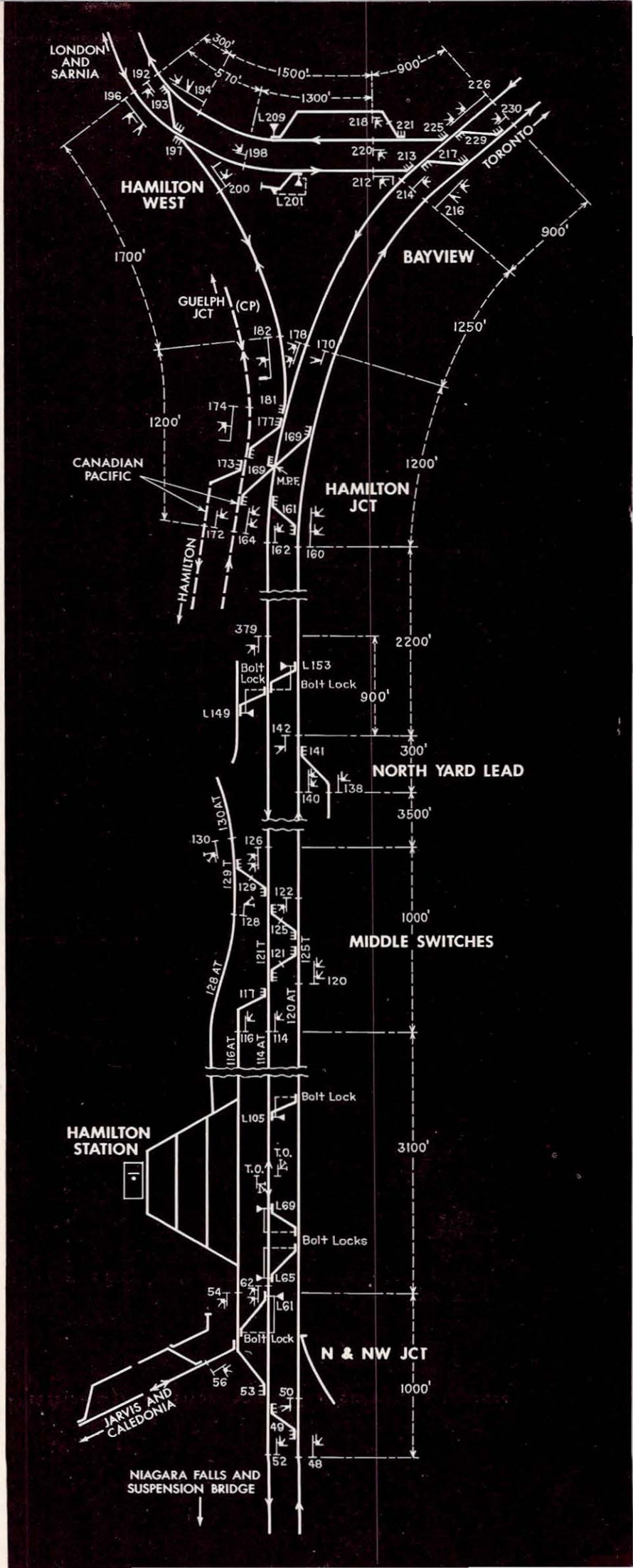


PANEL CONTROL MACHINE in Hamilton passenger station will have a right wing to handle CTC between Hamilton and Toronto. Signals are cleared by "push" or "turn" buttons. Switch levers at bottom of panel are "turned." Switches and signals at N&NW Jct. and Middle Switches are direct wire control, the rest are remotely controlled by Syncroscan.



HAMILTON IS THE HUB of several Canadian National lines that serve this industrial city of 225,000 population. The double-track CN mainline between Hamilton and Toronto also handles Canadian Pacific trains. High speed interlockings are under construction at Oakville.

TERMINAL INTERLOCKING at Hamilton handles an average of 52 passenger and 37 freight trains daily Turnouts are No. 28, which are good for 28 mph. Speed is restricted to 20 mph Hamilton West to Bayview (descending 1 per cent grade), and elsewhere in the plant to 35 mph.



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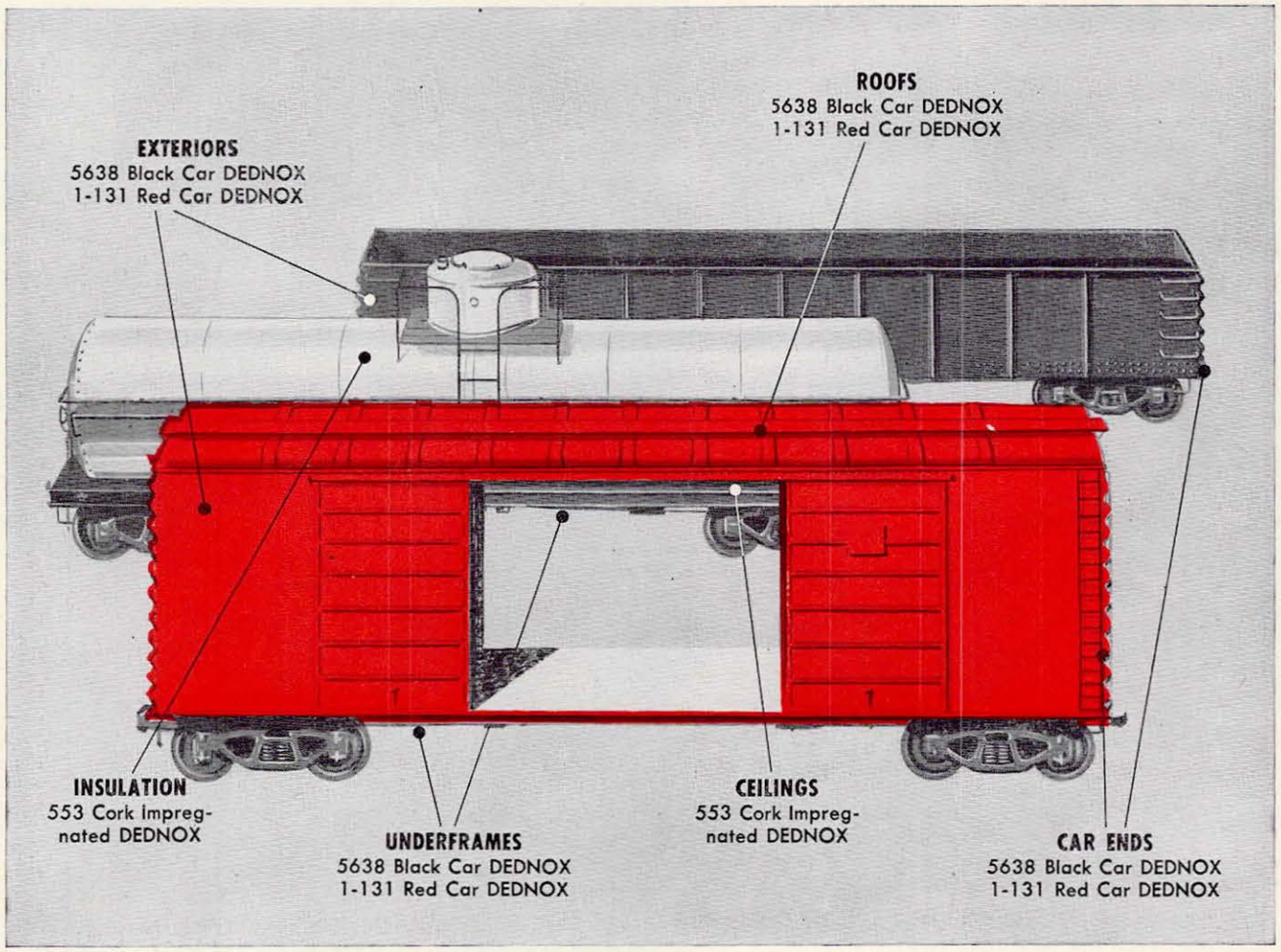

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CNR's Terminal Interlocking

(*Continued from page 26*)

trains are operated at the present time.

Originally, a movable point frog, crossovers and three single switches and associated interlocked home signals at Bayview, were controlled from a 24-lever mechanical interlocking machine. This mechanical plant required extensive repair, hence was due for replacement. Also, signaling had to be changed so the aspects displayed would agree with the new Uniform Code of Operating Rules in Canada. The rules require Canadian railroads to change from previous route signaling to the speed signaling.

A table interlocker in the Bayview tower controlled the single switch, crossover and searchlight signals at Hamilton West. The movable point frog, two crossovers, four single switches and associated signals at Hamilton Junction, were controlled from a 48-lever mechanical interlocking machine owned by the Canadian Pacific. The switch at North Yard Lead was formerly hand-thrown, operated by switch tenders who gave hand signals for directing train movements.

At the Middle Switches are three crossovers and a single power switch, formerly all hand-thrown by switch tenders. The crossover and new single switch with associated signals at N&NW Junction, east of the Hamilton passenger station, were formerly operated by switch tenders. A rearrangement of track was made at the N&NW Junction and Bayview to improve the layout, the single switch at N&NW Junction formerly being part of a scissors crossover, and switches 213 and 217 at Bayview previously forming part of a movable point frog.

Switches and signals at N&NW Junction and the Middle Switches are direct wire control. North Yard Lead, Hamilton Junction, Hamilton West and Bayview interlockings are remote controlled by the GRS Syncroscan system.

The New CNR Interlocking Has These Three Special Features:

Call-on Used for Closing Up

For closing up trains entering the yard or passenger station, signals can be controlled to display the call-on aspect. This aspect is yellow for a dwarf signal and red-over-yellow for a high signal. The call-on aspect is used also for directing train moves against the normal current of traffic in those portions of the interlocking having two main tracks.

Call-on signals cleared in the normal direction of traffic are progressive and cannot be cleared indiscriminately. The block and approach track must be occupied before the signal will clear. If the block becomes unoccupied before the call-on is accepted, the signal will progress or climb to a less restrictive aspect. When clearing call-ons against the current of traffic the block is not required, and the signal aspect remains red-over-yellow or yellow.

Single track is signaled for double-direction running and is circuited to give the equivalent of traffic locking. That is, opposing call-ons are not allowed to clear, nor can traffic direction be changed with a train in the block. Call-on aspects are used only for following moves.

Double track is signaled for single-direction normal right-hand running. Trains can be routed against this normal direction of traffic by signal indication. However, only call-on aspects are provided in this direction. Call-on aspects cleared against the normal direction of traffic in double track territory are non-interlocked, in that a call-on can also be cleared with current of traffic into the one previously cleared. Circuits provide, however, that when a call-on is initiated against the normal direction, the "H" circuit to the adjacent plant is de-energized and a time interval runs before the call-on will clear. These call-on aspects against the direction of traffic provide for coupling-on movements. For example, helper engines at Bayview back on to westward freights to assist them up a one per cent grade toward Hamilton West and on to London. Other moves where call-on aspects are used are for car transfer movements at Hamilton Junction, between the CNR and the CPR; and also for switching movements at North Yard Lead and the Middle Switches.

•

Timing Circuits for Locks

All main-track hand-throw switches are equipped with electric locks, with the exception of the short spur track at Hamilton West, into which trains do not normally clear. Where a crossover is the mainline, the mainline switch is electrically locked with the opposite switch, being bolt-locked by a pipe connection. All locks are lever controlled for supervisory control by the traffic supervisor.

For a movement from the main track to a siding or yard track, the lock release cannot be sent out while a signal is cleared into the block, because with a release given only a call-on signal is allowed. Therefore, a lock release going out after the signal was cleared would cancel the signal. A lock release can be sent out, however, after the block becomes occupied. With the release given and the block occupied for time, the electric lock in the field may be released. This time is sufficient for the train to have reached the switch, thus obviating need for the short release track.

If the release is sent out before the signal is cleared, only a call-on signal is allowed.

When entering the mainline from a siding or yard track through an electrically locked switch, no special time is involved other than the usual time equivalent to that for approach locking. Signals governing into the route must have been at Stop for a predetermined time interval. Of course, the main line track circuit timed-up would also allow the lock to be released. Lock L61 is the exception to this rule because it is within interlocking limits. Time locking is used throughout with a two-track release.

•

Special Clearing for Switching Moves

To facilitate switching moves over the South Yard lead near the yardmaster's office at Middle Switches, a special control is provided on signals 128 and 130, in addition to the usual control. Normally, signal 128 will clear to yellow when the signal knob is pushed, and will cancel when the train passes the signal. By rotating the 128 knob, both 128 and 130 will clear to yellow, the aspects remaining displayed until canceled from the control machine. This unique control allows switching moves on the switching lead in both directions with the switch normal, without attention by the traffic supervisor. These signals are sometimes left cleared for long periods of time while switching is taking place. This allows the traffic supervisor to ignore the signals unless the trainman calls in for the switch to be thrown reverse.

How much can you save? Use this table and find out!

This table, based on a fleet of 100 diesel and electric units, will aid you in figuring how much Standard's Wheel Truing Machine could save you.

WHEEL TRUING MACHINE SAVINGS ANALYSIS

AVERAGE 100 UNIT FLEET

Total pairs of wheels in Service	432
Average mileage 1 unit 1 month	9,500
Average mileage between wheel turnings	57,000

DIRECT SAVINGS	Lathe Method	Wheel Truing Method
Wheel pairs changed annually	736	164
Wheel Turnings per wheel life	2.5	3.5
Wheel pairs turned annually	526	572
Labor and Tooling cost per pair wheels turned	$73	$14
Total Annual Cost	$38,398	$8,008
SAVINGS	$30,390	
New Wheels purchased annually	210	164
New Wheel Cost @ $368	$77,280	$60,352
SAVINGS	$16,928	
TOTAL DIRECT ANNUAL SAVINGS		**$47,318**

MAJOR INVENTORY REDUCTION	Lathe Method	Wheel Truing Method
Wheel, Axle & Bearing Assemblies		
No. wheels changed annually	736	164
Minimum Inventory—30 day supply	61	14
Value @ $2,145 each	$130,845	$30,030
INVENTORY REDUCTION		**$100,815**

Our representatives will supply facts behind these and other studies. For immediate information, write to: WHEEL TRUING, Standard Railway Equipment, 200 South Michigan Avenue, Chicago 4, Illinois.

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MARKET OUTLOOK *at a glance*

Carloadings Rise 1.3%; Fifth Straight Increase

Loadings of revenue freight in the week ended Oct. 11 totaled 686,138 cars, the Association of American Railroads announced on Oct. 16. This was an increase of 9,122 cars, or 1.3%, compared with the previous week; a decrease of 55,382 cars, or 7.5%, compared with the corresponding week last year; and a decrease of 137,069 cars, or 16.7%, compared with the equivalent 1956 week. This was the fifth successive week in which carloadings have shown an increase.

Loadings of revenue freight for the week ended October 4 totaled 677,016 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, October 4

District	1958	1957	1956
Eastern	98,044	115,104	127,128
Allegheny	114,597	145,331	152,863
Pocahontas	53,560	63,039	67,356
Southern	118,595	116,978	131,512
Northwestern ..	108,768	124,474	140,950
Central Western .	131,867	129,448	134,916
Southwestern ..	51,585	53,273	60,468
Total Western Districts	292,220	307,195	336,334
Total All Roads	677,016	747,647	815,193
Commodities:			
Grain and grain products	60,755	57,046	57,898
Livestock	11,429	10,905	14,626
Coal	119,043	138,700	144,565
Coke	7,287	10,199	12,505
Forest Products .	39,381	34,438	44,655
Ore	65,208	81,033	87,214
Merchandise l.c.l.	49,348	56,915	62,619
Miscellaneous ..	334,565	358,411	391,111
October 4	677,016	747,647	815,193
September 27 ..	672,924	739,266	831,648
September 20 ..	667,277	724,934	822,436
September 13 ..	665,999	741,147	820,849
September 6 ..	563,351	646,117	679,651
Cumulative total, 40 weeks ...	22,829,237	27,883,885	28,995,323

IN CANADA.—Carloadings for the nine-day period ended September 30 totaled 110,041 cars, compared with 78,179 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
September 30, 1958	110,041	36,611
September 30, 1957	104,660	38,309
Cumulative Totals:		
September 30, 1958	2,815,489	1,058,588
September 30, 1957	3,042,884	1,244,366

New Equipment

FREIGHT-TRAIN CARS

► *Cotton Belt.*—Equipped 50 52-foot, 6-inch gondola cars with rubber draft gear, three-section removable roof and four-section movable bulkheads at Pine Bluff, Ark., shops. Cars will be used for handling such commodities as tinplate, coiled and stainless steel, aluminum and copper brass products.

► *Trailer Train Co.*—Ordered an additional 400 85-ft flatcars—200 from American Car & Foundry Division of ACF Industries, and 200 from Pullman Standard Car Manufacturing Co. The order is identical to one placed earlier (RA, Sept. 1, p. 27). Trailer Train provides piggyback flatcars for 11 railroads, one freight forwarder, and the Rail-Trailer Co.

SPECIAL

► *Baldwin-Lima-Hamilton.*—Will build 85 43-ft air-operated dump cars for the Southern Peru Copper Corporation. Delivery will begin in November and continue at the rate of 20 cars per month.

► *Colombo, Ceylon.*—The Colombo suburban railway system will purchase five diesel-powered coaches as a result of a loan agreement signed between the United States and Ceylon making available $750,000 in Development Loan Funds for this purpose.

► *India.*—World Bank has loaned $85 million to India as part of cost of rolling stock, locomotives and other types of equipment needed to expand the freight capacity of the nation's railways. Contracts will be awarded on international bidding. Payments will be made during 1958 and 1959.

New Facilities

► *Interstate Railroad.*—Has ordered 21 transistorized power supply two-way radios for use on locomotives, 14 automobile two-way radios, two relay stations, and one base radio station. Also included in this order from Motorola, Inc., are 33 portable radio packsets.

► *Monon.*—Will replace 4½-mi of 100-lb rail with 115-lb welded rail. The work, to be done by company forces, will cost an estimated $170,000, will be completed Nov. 1. Monon is also completing expansion of trackage to serve Ralston Purina plant at Lafayette, Ind., at an estimated cost of $40,000.

► *Northwestern Pacific.*—Is eliminating 932-ft open deck trestle along the Eel River, Humboldt County, Calif., by means of a 1,200-ft line change and construction of new grade. Total cost of the work, scheduled for completion this month, is $90,000.

► *Pacific Motor Trucking.*—This Southern Pacific subsidiary has started construction at Los Angeles of the West's largest truck terminal scheduled for March 1959 completion. To occupy a 20-acre site, the terminal will include three buildings: an 800-ft by 110-ft loading dock and shed building accommodating 154 trucks or trailers, with a 1500-ft Towveyor system for fast handling of freight; an 80-ft by 110-ft air-conditioned office building; an 80-ft by 305-ft truck repair shop. Facility will replace company's present Southern California district headquarters elsewhere in the city.

Symes Warns of RR 'Bottleneck'

Failure of industry to find capital for new equipment — particularly freight cars — seen as threat to national economy. Burlington's Murphy proposes higher per diem charges as solution to the car shortage.

Pennsylvania President James Symes, worried by the prospect of "the worst car shortage that we have ever seen," carried a blunt warning to auto makers in Detroit last week:

Railroad transportation threatens to become a bottleneck which will hold back the expansion of the automotive industry and the national economy in general—if "changes in transport regulation and taxation are not put into effect promptly—and if some practical means is not found to increase the railroad fleet of equipment quickly."

"The time is already late," Mr. Symes told the Economic Club of Detroit. "The demand is sure to be upon us before we can meet it fully."

He called on automotive leaders to support the railroads in their continuing fight for relief from discriminatory regulation.

He pointed out that automobile registrations are expected to increase by about 25,000,000, and trucks and buses by over 3,000,000 in the next ten years. Detroit won't be able to meet this demand, he added, without efficient railroad service. "Aside from the high cost of highway transportation, there just isn't the money to buy or the room to build all the additional highways to do the job the railroads are now doing—let alone the job they will have to do as the economy grows."

"Only if railroads can find a source of capital for the improvements in plant and rolling stock—and increases in the quantity of that rolling stock—will they be able to handle the freight they will be called upon to transport in the 10 years ahead," he said.

The Pennsy's Symes wasn't the only railroader worried by the threatened car shortage last week. From the midwest came a suggestion for at least a partial solution:

An increase in per diem rates would bring about an automatic increase in car supply, Burlington President H. C. Murphy declared.

Burlington, he said, "has done more than many railroads in providing an adequate national car fleet. To some extent, the reason for periodic car shortages is the generally inadequate level of railroad earnings over the years.

"However, I think another important cause . . . is the fact that, generally speaking, per diem charges have been too low to provide an incentive for car ownership. So long as it is cheaper to rent a car than it is to own one—and that is the situation today—underbuilding will be the policy of strategically situated railroads, and construction will be held to minimum requirements.

"Conversely, if per diem charges were increased so as to make ownership more attractive than rental, I think the national car supply would tend to increase automatically, by the operation of natural economic laws."

And that particular development, Mr. Murphy told the Mid-West Shippers Advisory Board, "would be helpful from your viewpoint, as individuals who frequently suffer from car shortages under the present conditions."

MILLER CENTER-FEED LUBRICATORS have proven to be a most effective means of providing low-cost, efficient lubrication of freight car journals. A total of 200,000 carsets are now in service (160,000 c/s center-feed; 40,000 c/s prior design). The lubricator is a one piece, non-mechanical unit of rugged construction, fabricated from a heavy textile rug-like blanket which is supported by synthetic oil-resistant honeycomb rubber core.

Cost savings begin with the installation which is quickly accomplished without jacking the journal box. Lubricators are installed in a matter of minutes, much quicker than most competitive pads or waste. Their renovation record is outstanding; many find that 95 per cent or more are re-usable. Pads 4½ years old are still in service, resulting in the lowest pad cost per freight car year. This is made possible by the much longer wear-life built into this rugged product.

As an example of improved operations, resulting in lowered operating costs to the railroad—on the Nickel Plate, 300 Miller equipped 70-ton covered hopper cars made 10 times more mileage per set out over a 1½ year period, than these same cars made previously when packed with waste. This is not an isolated example. Many roads report major improvement after removing waste and applying Miller lubricators. Miller Lubricator Co., Dept. RA, Box 416, Winona, Minn.

Multiple-Car Rates Set To Boost Pulpwood Traffic

New multiple-car freight rates may play a large role in opening up a million-dollar industry in South Dakota. The industry: Black Hills pulpwood which, until now, has been too far away from its markets to compete with pulpwood situated closer to the mills.

Chicago & North Western announced the birth of the new industry—and pinpointed the key to development of pulpwood resources as "transportation . . . under reasonable railroad freight rates."

North Western's answer, after months of negotiations involving mill operators, was a multiple-car rate based on a 25-car-load minimum. The first pulpwood shipment (out of Deadwood, S. D.) was made

earlier this month—25 cars, or 550 cords of pulpwood.

W. A. Kluender, director of C&NW's Agricultural and Resource Development Department, said several large Wisconsin mills have begun broad pulp buying programs in South Dakota. Based on present estimates, buying in the state should reach the million-dollar level in a year or so.

Wage Subsidy?

CNR's Gordon Rejects Idea, Warns of 'Economic Trap'

Canadian National President Donald Gordon wants to meet any increased labor costs by means of freight rate increases—not by government subsidy.

In Winnipeg, Man., the CNR chief expressed alarm over what he called the "lighthearted assumption" that the payment of a subsidy to meet railway wage increases would be a happy or easy solution.

"In my view," he said, "such subsidies could result in an economic trap and, as well, incur the risk of an infectious inflation."

If subsidy payments were financed by increasing a deficit of the federal government instead of by increased taxation, the inflationary effect would permeate the economy, he said. On the other hand, he added, raising freight rates does not call for any increase in the quantity of money and credit or in the velocity of circulation.

Canadian railroads have asked for an immediate 19 per cent freight rate increase to cover wage hikes recommended by a conciliation board for some 130,000 non-operating employees. The rate increase, they say, must come before the wage increase (RA, Sept. 22, p. 24).

Mr. Gordon made his comments on the suggested "wage subsidy" at a groundbreaking ceremony in Winnipeg for the CNR's new $24,000,000 Symington freight yard.

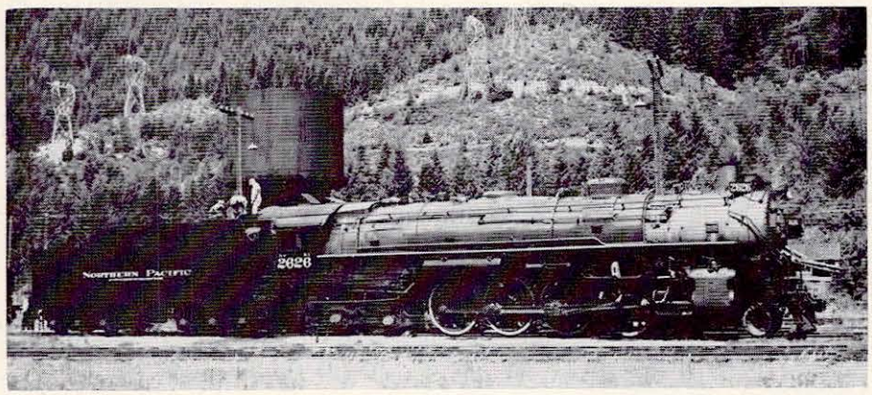
M&StL Seeking to Drop Minneapolis-Des Moines Runs

The Minneapolis & St. Louis wants to go out of the passenger-hauling business between Minneapolis and Des Moines.

The M&StL notified the ICC last week of its intention to drop two night passenger-mail trains running between the two cities and serving 43 communities in Minnesota and Iowa. The discontinuance is to become effective Nov. 22.

Reason for the move, said the railroad, is that the business on the route "is lost to the automobile."

Meanwhile, the ICC last week gave the green light to another passenger service curtailment. The Commission decided to let the Southern Pacific go ahead with its plan to discontinue 45 stops made by two of its passenger trains between Los Angeles and Tucumcari, N. Mex. (RA, Oct. 6, p. 7).



NP Scraps Timken's 'Four Aces'

The world's first all-roller bearing steam locomotive has gone to the scrap heap, after logging more than 2,200,000 miles between 1930 and August 1957. As Timken Roller Bearing Company's No. 1111, this Alco-built locomotive ran tests over 12 railroads between 1930 and 1933 when it was permanently acquired by Northern Pacific. The engine, renumbered 2626, set a pattern for all subsequent NP purchases of 4-8-4 power — all came with roller bearings. No. 2626 started NP service on the "North Coast Limited," later was assigned to other passenger runs and freight operation. Its last run Aug. 4 1957 was at the head-end of a rail-fan special.

NH Breaks Ice, Applies for Loan

The ICC's new Section of Loans found its first customer last week. The New Haven applied for a $16,542,460 government-guaranteed loan to buy 60 dual-power, FL-9 EMD locomotives.

The New Haven thus became the first railroad to seek a government-guaranteed loan under authority of the 1958 Transportation Act. The Boston & Maine has announced it is considering applying for a government-backed loan to help finance a new $21,000,000 freight yard—but a B&M spokesman said last week the plan is still in the talking stage.

The New Haven told the ICC it had been unable to obtain the desired loan without a government guarantee. The railroad said it began to explore the possibility of financing the equipment early in 1957. Preliminary discussions took place with Halsey Stuart & Co. and Salomon Bros. & Hutzler, and later with Eastman Dillon, Union Securities & Co. and National Equipment Leasing Corp. Subsequent to passage of the 1958 Transportation Act, the New Haven renewed its talks with Salomon Bros. & Hutzler and opened talks with the Chase Manhattan Bank and Irving Trust Co. The road does not know yet, however, what lenders will participate in the financing, should the government guarantee be granted.

The New Haven said it believes the equipment itself will at all times provide full security on the loan.

Earlier the New Haven announced to the New York Stock Exchange that it planned to call a special stockholders' meeting Nov. 21 to seek approval for loans totaling $18,542,460, of which $16,542,460 would be for diesel locomotives (RA, Oct. 13, p. 14).

'Pullman City' Power Plant Built

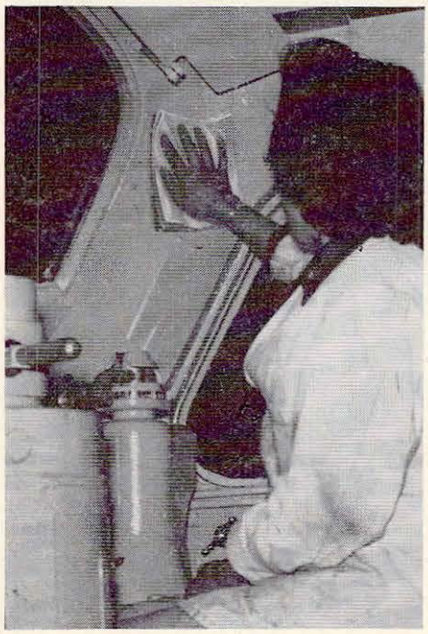
Parked sleeping cars, serving as hotels for sports fans or tourists, need electricity. Providing that power can be a rather expensive chore, where a railroad must call on local power companies to install temporary transformer banks.

Illinois Central recently turned out a mobile power plant which should eliminate that expense—and by so doing, justify the cost of constructing the unit ($5,200) within two years.

IC's power source consists of two 500-kw rotary converters and control and distribution panels installed in a conventional baggage car and connected to a diesel-electric locomotive. Converters take the direct current power produced by the main generator of the locomotive and change it to three-phase, 220-volt alternating current through inverting the rotary converters. Receptacles on the side of the unit provide outlets for 24 power cables.

The first time the mobile plant was used (at the 1958 Kentucky Derby) it provided power for air conditioning, lighting and ventilation on 28 parked sleeping cars over a 33-hour period. During that time, according to IC, the locomotive used 720 gallons of fuel and generated 6,800 kwh of power.

R. I. Fort, electrical engineer of equipment, planned the installation. IC built the unit at its Paducah, Ky., shops, for service at such special events as the Derby.



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Dome Building

(*Continued from page 25*)

● Efficient materials storage with no section of the 2,160 ft of repair track more than 50 ft from the materials storage area.

● Reduction in movements of men. Cars are brought to the work stations which are equipped with heavy, permanent tools and equipment.

● No idle repair spots, because a transfer table in the radial layout moves cars out of a repair area, making room for the next car, as soon as work is completed. The straight-line arrangement of conventional repair shops means that the car which takes the longest to repair can determine the movement of the entire repair line.

● Improved supervisory control through a central control tower seven stories high, providing visual control of all work areas.

● Utilization of modern, automatic equipment in car lifting, washing, interior cleaning and finishing operations.

The arrangement which makes all this possible can best be described as a giant wheel. Its hub is a separate structure—a dome within the dome, 80 ft high and 100 ft in diameter—located just off center inside the shop.

Ground floor of this hub dome is open, providing 7,500 sq ft of materials storage handy for everyone. Above, at second-floor level in this junior dome, are offices and lockers. Higher yet, at its top, is the nerve center for the entire shop—the central control tower, tied closely by closed circuit telephone to every service area on the floor nearly 80 ft below.

A Whiting transfer table, able to accommodate a single tank car and move it from one radial track to another, girds the base of the hub dome. The transfer table moves on circular tracks. Extending beyond its outer rim, like spokes in a wheel, are 36 sets of tracks. Thirty are repair tracks; the others are for entrance and exit from the big dome.

The whole "wheel" arrangement is set 25 feet off center within the dome. This provides a crescent-shaped free area behind the heavy work positions for special facilities. Here are the woodworking, machine, blacksmith, welding and wheel shops, washrooms, air compressor, boiler room and waste renovation plant.

Fourteen service tracks are for light tank repair; two for heavy tank repair, 10 for car repair; and four for tank cleaning. A 30-ton gantry crane, capable of lifting an entire tank car, straddles the car and heavy repair areas. Each car repair track has its own one-ton gantry crane for lifting work previously handled manually or with light, portable equipment. Underneath each track is a hydraulic jack, able to lift a tank car in seven minutes. Utility stations at each pair of tracks provide air, water, steam, propane and oxygen—all from overhead lines.

All cars are thoroughly cleaned by automatic equipment as they roll down the entrance track into the dome for repairs. If the car contains liquefied petroleum gas or acid, it passes through a special outside LPG area which utilizes pushbutton controls and overhead stations for its cleaning operation.

Tank cars are first pulled into the Union dome with a Trackmobile. The car is first inspected and then rotated to its proper station on the transfer table. A current record of progress, from inspection to finishing, is kept in the control tower. The outside rim of this glass-enclosed tower contains a plastic-topped work table where up-to-date reports for each service area are kept in the corresponding space in grease pencil.

A Friden Flexowriter Programatic system simultaneously provides data for materials handling, work instructions and incentive costs.

When repair work is completed, the car leaves by one of three routes: a track leading to the storage area, a second track which returns it directly to service, and a third track which takes it through the paint tunnel.

This paint tunnel, protruding 200 ft from the main dome, is 40 ft wide and 20 ft high. First stop is an automatic grit-blast room where the car is prepared for painting in less than 10 min. Next, the car is pre-heated for controlled drying. In the paint area, workers are mounted on small elevators which move from side to side as well as up and down. The final step is stenciling. The entire finishing takes two to three hours.

Despite its size, the Union dome required only seven items on its bill of materials: standard 11-gage (⅛-in.) sheet steel, 4-in. pipe, 1½-in. and ¾-in. rod, 2-in. pipe sleeve, 1½-in. nuts, and washers. In relation to its size, the 567-ton dome has a thickness less than that of an eggshell. At no point does it place more weight on its foundation than does the wheel of an automobile on the ground.

With the first big dome already in full and active use, Union Tank Car Company has broken ground for a second such structure at Wood River, Ill. Plans call for establishment of a Dome Division to pre-fabricate and erect domes for other companies through its subsidiary, Graver Tank & Mfg. Co., Inc., of East Chicago, Ind.

Arthur T. Van Wart
NYC

P. C. Wingo
N&PBL

Hamilton M. Redman
N&W

E.J. Larson
SP

People in the News

ATLANTIC COAST LINE.—The Waycross and Montgomery districts have been consolidated and hereafter will be known as the Waycross district, under jurisdiction of the superintendent at Waycross, Ga. Position of superintendent at Montgomery, Ala., abolished. **O.V. Horace** appointed assistant superintendent at Montgomery.

CANADIAN NATIONAL.—J. R. Kemp, assistant mechanical engineer, Winnipeg, Man., appointed mechanical engineer, Atlantic region, Moncton, N.B., succeeding **David A. Foster** (RA, Sept. 22, p. 38).

William G. Kelsey, deputy tax commissioner, Montreal, appointed tax commissioner there.

G. J. Patterson appointed personnel assistant, Montreal.

COTTON BELT.—G. L. Smythe, general agent, Blytheville, Ark., transferred to Cincinnati, Ohio, succeeding **L. G. Torbeck,** retired, **F. R. Gammill, Jr.,** named general agent, Nashville, Tenn., succeeding **N. E. Knepper,** transferred to Blytheville.

DETROIT, TOLEDO & IRONTON.—R. G. Shivers appointed assistant to general freight agent, Dearborn, Mich., to replace **A. H. Westphal,** who retired April 30.

ERIE.—Charles M. Stubbs, assistant master mechanic, Marion, Ohio, promoted to master mechanic there, to succeed **Harry I. Phelps,** retired (RA, Sept. 29, p. 58).

Frank L. Van Schaick appointed supervisor of locomotive operation, Port Jervis, N. Y. Abolished position of assistant supervisor of locomotive operation, formerly held by Mr. Van Schaick.

FLORIDA EAST COAST.—C. A. Gammon, chief mechanical officer, St. Augustine, Fla., retired Oct. 1. **E. H. Schoedinger,** assistant chief mechanical officer, appointed acting chief mechanical officer and his former position abolished.

GRAND TRUNK WESTERN.—R. G. Maughan appointed assistant chief engineer, Detroit, succeeding **A. T. Powell,** retired. Position of assistant to chief engineer, formerly held by Mr. Maughan, abolished.

ILLINOIS CENTRAL.—Emanuel J. Mounes appointed foreign freight agent, New Orleans, to succeed **Paul H. Wunder,** deceased.

John T. McCue appointed district passenger agent, Jacksonville, Fla., replacing **Frank H. Tucker, Jr.,** deceased.

B. D. Venable, assistant master mechanic, Memphis, Tenn., appointed master mechanic, McComb, Miss., to replace **Rollin J. Chinn,** named mechanical and shop engineer, Chicago.

LACKAWANNA.—C. R. Hartshorn, assistant western traffic manager, Chicago, appointed western traffic manager there, succeeding **John H. Christy,** who retired September 30. **R. K. Lovitt,** general freight agent, Chicago, succeeds Mr. Hartshorn.

D. E. Muldoon appointed general storekeeper Scranton, Pa., succeeding **F.F. Pawlitz,** appointed storekeeper, Scranton general store, with supervision extended to include the Scranton diesel store. Abolished positions of assistant to manager, purchases and stores, and assistant to general storekeeper.

NEW HAVEN.—Arthur H. Oesterheld, formerly manager of New York accounting for the Columbia Gas System, appointed assistant comptroller, New Haven.

NEW YORK CENTRAL.—Arthur T. Van Wart, assistant director of labor relations, appointed director of labor relations, New York.

W. V. Hayes appointed director of safety, New York, succeeding **D. E. Mumford,** who is on special assignment.

NORFOLK & PORTSMOUTH BELT LINE. — P. C. Wingo, superintendent, Pocahontas division, Norfolk & Western, Bluefield, W. Va., named president of the Norfolk & Portsmouth Belt Line, Norfolk, Va., succeeding **F. E. Dickerson,** resigned to become president of Lambert's Point Docks, Inc., Norfolk. Mr. Dickerson replaces **Clyde M. Francis,** who returns to the N&W as assistant freight traffic manager, Norfolk.

NORFOLK & WESTERN.—Hamilton M. Redman, vice president and treasurer, Berkshire Life Insurance Company, Pittsfield, Mass., will become a vice president of the N&W on November 1. On January 1, 1959, Mr. Redman will become vice president in charge of finances, succeeding **L. W. Cox,** who will retire on that date.

R. F. Dunlap, superintendent, Norfolk division, Crewe, Va., transferred to the Pocahontas division, Bluefield, W. Va., succeeding **P. C. Wingo,** named president Norfolk & Portsmouth Belt Line, Norfolk. **H. E. Carter,** superintendent, Shenandoah division, Roanoke, succeeds Mr. Dunlap. **W. O. Tracy, Jr.,** superintendent Roanoke terminals, succeeds Mr. Carter. **H. L. Scott, Jr.,** assistant superintendent of terminals, Norfolk, replaces Mr. Tracy. **M. E. Bowman,** assistant superintendent—trainmaster, Bluefield, succeeds Mr. Scott. **C. W. Cookes,** road foreman of engines, Norfolk division, named trainmaster, Pocahontas division.

R. J. Lane, storekeeper, Roanoke general storehouse, appointed district storekeeper, Roanoke terminals and the Norfolk, Shenandoah and Radford divisions, at Roanoke. Following storekeepers named division storekeepers: **J. F. Haase,** Scioto division, Portsmouth, Ohio; **F. N. Bowling,** Pocahontas division, Bluefield; **Beverly Fitzgerald,** Norfolk Terminal, Norfolk. Abolished positions of storekeeper at Roanoke, Portsmouth, Bluefield and Norfolk.

SOUTHERN PACIFIC.—The following retired Sept. 30: **L. B. Young,** assistant to president; **H. E. Lynch,** manager of dining car operations; and **Henry C. McCleer,** assistant general auditor, all at San Francisco.

C. S. MacKenzie, assistant general auditor, appointed assistant general auditor with jurisdiction over outside companies and income tax matters. **R. V. Cole,** auditor of disbursements, succeeds Mr. MacKenzie. **G. W. Klee,** assistant auditor disbursements, promoted to auditor of disbursements. **E. J. Gendron** named assistant to auditor of disbursements, succeeding **W. K. Smith,** promoted to assistant auditor of disbursements.

E. J. Larson, freight traffic manager, rates and divisions, San Francisco, advanced to general freight traffic manager there.

Lloyd S. Stitt, district freight and passenger agent, Stockton, Cal., transferred to Reno, Nev., succeeding **J. Harold Mahan,** retired. **Albert H. Anderson,** district freight and passenger agent, Bakersfield, Cal., named to replace Mr. Stitt, and in turn is succeeded by **M. E. Mitchell,** assistant district freight agent, San Francisco. Mr. Mitchell's successor is **E. A. Bancroft,** traveling agent, Ogden, Utah. **Jack Roche,** assistant district passenger and public relations representative, Oakland, Cal., appointed assistant district freight and passenger agent, Ogden.

Thomas B. Lochhead assistant manager, promoted to manager of dining car operations, system, San Francisco, succeeding **H. E. Lynch,** who retired September 30.

Supply Trade

Wilson T. Groves has been appointed chief metallurgical engineer of the **Dana Corporation** at Toledo, Ohio, succeeding **S. L. Widrig,** retired.

Andrew Younger has been appointed district engineer of **General Motors Diesel Limited** at Winnipeg, Man., to succeed **G. Norman Bennett,** transferred to Toronto, Ont.

George C. Watterworth has been appointed manager of traffic and **George J. McGarry** has been named assistant traffic manager of the **International Nickel Company, Inc.** Mr. Watterworth succeeds **George W. Ammon,** retired.

Hoyt Stout has been named regional sales manager in New Jersey, Delaware and Southeastern Pennsylvania for **Motorola Communications & Electronics, Inc.,** with office at 7852 Montgomery Avenue, Elkins Park, Pa. Mr. Stout, who was formerly zone manager in Western Pennsylvania, succeeds **Wallace Miller,** who is now the New York State manager.

David W. Owens has been appointed director of export sales for the American Car & Foundry division of **ACF Industries, Incorporated.** Mr. Owens formerly was manager of the machinery sales department of W. R. Grace, Inc.

The New Orleans district sales office of the Wickwire Spencer Steel Division of the **Colorado Fuel & Iron Corporation** has been moved to 1128 Dublin at Oak Street, New Orleans 18, La.

OBITUARY

J. V. Conway, western sales manager, Transportation Seating Division of **Heywood-Wakefield Company,** died October 6.

A. G. Wilson, retired former president and cofounder of **Hanlon & Wilson Company,** Wilkinsburg, Pa., died October 8. Mr. Wilson was a pioneer in the development of bonding and signaling accessories.

Andrew B. Ledwith, advertising department, **Union Switch & Signal—division of Westinghouse Air Brake Company,** died October 4.

You Ought To Know...

Faster eastbound freight schedules between the Pacific Northwest, the Twin Cities and Chicago will become effective Nov. 1. It's a one-day quicker move, similar to the shortened schedules inaugurated three years ago for westbound movements. Nov. 1 thus becomes the date for one-day faster service over practically all western transcontinental routes (RA, Oct. 6, p. 7).

Ground-breaking ceremonies for the new Jacksonville, Fla., headquarters of the Atlantic Coast Line were held last Thursday. The 15-story-plus-penthouse building is scheduled for completion in 1960. The road's general offices are now in Wilmington, N. C.

Instruction by movie is ahead for Illinois Central operating employees. "The Rule Book," an 80-minute color motion picture covering railroad rules, regulations, definitions, general notices and operating procedures, will be used in the instruction and examination of IC employees beginning this month.

CNR will begin extensive testing of five new refrigerator cars which have just been delivered to that road by National Steel Car. Built entirely of aluminum, except for trucks, charcoal heaters, door and hatch hardware and certain safety equipment, the new reefers are 22.5 per cent lighter in weight than standard units. The cars were designed by CNR, National and Aluminum Co. of Canada; are the first such cars built in that country.

Missouri Pacific will now advance payment of tuition and lab fees for approved courses in which MoPac employees enroll at recognized schools. Among the courses listed: accounting, business and management, economics, engineering and industrial, English, mathematics, philosophy, psychology and public speaking. MoPac feels the program will improve both corporate performance and employee morale.

Chicago & North Western has paid its 1957 property tax bill to 24 Illinois counties. The bill: $2,702,512.64, of which $2,063,180 was paid in the five counties where C&NW suburban service is operated. What kind of taxes does a railroad pay? In C&NW's case the bill covered school taxes, city and village taxes, county taxes, sanitary district taxes, park district taxes, township road and bridge and road bond taxes, township taxes, fire protection taxes, forest preserve taxes, mosquito abatement district taxes, township library, airport, hospital and cemetery taxes.

Iron horses of another color will be the result of a current Louisville & Nashville repainting program. L&N is doing away with the two-color striping that formerly adorned its 743 diesels, is substituting solid colors—dark blue for passenger units, black for others. Aim: to trim 48 hours off the time formerly required for repainting.

A $100,000 study to seek a solution to the thorny fiscal problems of the New Haven's Old Colony commuter line in Boston is proposed by a bill now before the Massachusetts legislature. Legislators supporting the bill point out that the $900,000 Old Colony subsidy approved earlier this year is only a temporary solution. The subsidy ends July 1, 1959.

Largest forwarder facility in the country is Acme Fast Freight's description of its new 16-acre freighthouse at Chicago. The freighthouse has track space to accommodate 204 freight cars under its roof at one time. Loading docks will handle 286 trucks simultaneously. Wabash provides rail service for the terminal.

Southern Pacific No. 4294, last of the cab-ahead articulated steam locomotives, has been assigned to permanent display in Sacramento, Calif., Railroad Park next to SP No. 1—the tiny "C. P. Huntington." The 4294, built by Baldwin in 1944, has been retired since March 1956. In all, SP has now donated some 60 locomotives (worth $4,000 to $7,000 each, scrap value) to on-line communities.

Class I railroad employment in mid-September totaled 839,882—a drop of 15.38 per cent from September, 1957. The September figure was 0.54 per cent below the August figure. The estimate was made by the ICC's Bureau of Transport Economics and Statistics.

Illinois Central is expanding piggyback service to four additional cities—Monroe and West Monroe, La.; Sioux City, Ia.; and Omaha, Neb. At the same time, IC's roster of piggyback equipment is being increased. Company shops will convert 40 box cars to tofc flatcars. Twenty-two new tandem trailers have been acquired, 20 more are on order. Completion of the current program will give IC 121 flatcars equipped for piggyback use, and 153 trailers.

The Chicago Transit Authority is planning experiments with robot buses, coupled into bus trains. Among the possible applications: CTA might be able to run buses singly and with drivers on outlying routes, then join the units into a train for a robot express trip downtown. The Cook county highway department has offered to provide a stretch of pavement for test runs. The driver-less operation would involve automatic enforcement of spacing between bus trains and other vehicles—radar would be used to halt or deflect potential accident hazards.

As much gross revenue from general traffic as it now earns from coal is Norfolk & Western's 10-year goal. N&W's gross for the first eight months trailed last year by 23 per cent. But, the coal-carrying N&W's President Stuart T. Saunders told a two-day sales meeting, "our goal in the next decade should be to increase our merchandise traffic to at least 50 per cent of our total freight revenues." Last year about 70 per cent of the line's freight revenues came from coal and coke.

Great Northern's increasing use of reflectors (at auto-headlight level) on its freight cars has won the praise of the Michigan Farm Bureau. Contending that unlighted railroad cars constitute a menace at grade crossings, the bureau is urging national legislation requiring reflectors on all freight cars.

CPR mechanical employees no longer have to travel to U.S. locomotive schools for training. They now have, in Montreal, their own mechanical classroom, equipped with two panel boards wired to correspond to two types of locomotives, and a Vapor Clarkson steam generator in complete working order. CPR employees previously got their instruction at schools maintained by U.S. locomotive manufacturers.

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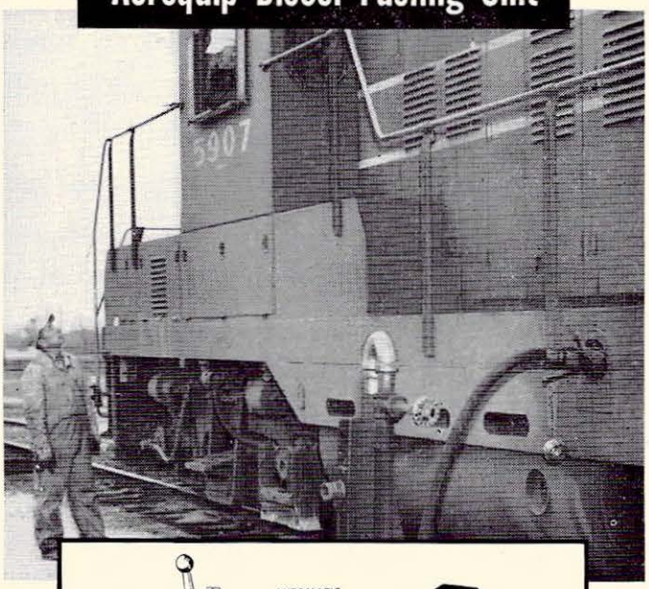
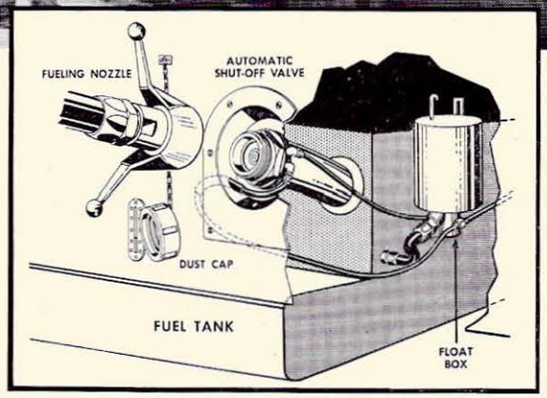
Buckeye Steel Castings 8
Classified Advertisements 37
Douglas Fir Plywood Assn. 20-21
Electro-Motive Division of General Motors .. Front cover
Erman-Howell Division of Luria Steel & Trading Corp. 37
General Railway Signal Co. ..... Back cover
Miner Inc., W. H. 3
Motorola Communications & Electronics, Inc. 4
Oakite Products, Inc. 34
Pittsburgh Coke & Chemical Co. 28
Railway Express Agency ..... Inside front cover
Servo Corp. of America 11
Sperry Rail Service Division of Sperry Products Inc. 23
Standard Railway Equipment Co. 30
Stran-Steel Corp. Unit of National Steel Corp. 13
United States Railway Equipment Co. 37
Wine Railway Appliance Company .... Inside back cover
Youngstown Steel Door Co. 6

For Automatic Refueling That FILLS TANKS FULL

Aeroquip Diesel Fueling Unit





The Aeroquip Diesel Fueling Unit is designed to fill the fuel tank without hand topping. Premature shutoff and overflow are eliminated by an automatic shut-off valve, actuated by the fuel level set in an external float box (see diagram).

Other features: Lightweight fueling nozzle has self-sealing action to prevent spillage, yet gives full flow (175-275 gpm.). Installation takes less than 2 man-hours on any type locomotive. Write Railroad Sales Department for full details.

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Big Job for Lawyers

The Interstate Commerce Commission has wide latitude in regulating the railroads. Without any change in the statutes, the ICC could permit railroads to operate barges on the rivers, and trucks on the highways. It could allow them almost complete freedom in rate-making, down to the level of direct costs. It could take all the sting out of the "long and short haul" clause.

With the need of the railroads for greater freedom so plain to see—why hasn't the ICC loosened the handcuffs more than it has?

Maybe the answer to this question is that the ICC hasn't been asked—with sufficient evidence, eloquence and frequency.

Professor Ernest Williams of Columbia University gave it as his opinion recently that it hasn't been the wording of the law that has sometimes led the ICC to hold a rate "umbrella" over the trucks. The letter of the law has given the ICC latitude in these cases. This latitude has often been used against the railroads. The reason is that the railroads have not always submitted evidence conclusive enough to induce a contrary opinion. They have not invariably shown why the rates they seek to make are economically sound and in the public interest.

This paper knows the ability and zeal of too many railroad lawyers to suspect them of inattention to such opportunities. Lawyers have been telling us for a long time that there may be "remedies" to many railroad difficulties in existing law—if only these remedies were diligently sought out and pressed. But pursuit of these remedies means a lot of work, and how many railroad law departments have staff to spare?

The Interstate Commerce Commission is made up of human beings—not supermen. When they come on the job, few of them know much about their duties. In such circumstances, the easy and natural course is to "follow the precedents." And the precedents are handed down from an era of railroad monopoly—many of them ruinously unfitted to present-day conditions.

To persuade the ICC to use its power over the railroads constructively, rather than repressively, a big job of "educating the Commission" is needed. The ICC does not appear to resent such "education." It has, indeed, often asked for it.

Many of the ICC's powers are so indefinite, and yet so broad, that they make the Commission more of a "transportation legislature" than a court. For example, the ICC has the power to classify railroad employees—separating the jobs that are managerial from the rank and file.

There was published an article on "management unionism" in the July issue of Industrial & Labor Relations Review. In this article it is reported that the ICC has used its power to put the great bulk of professional specialists, and supervisors below the rank of superintendents, in the "employee" category. Thus, they are subjected to unionization. It is precedent—not the letter of the law or adherence to a particular theory—that led the ICC to persist in this questionable course.

The ICC tends to behave like a court, but it has almost enough freedom of action to allow it to function also as a legislature. It *could* keep its behavior in line with changing economic developments, a lot closer than it does.

NOT JUST A "NECESSARY EVIL": Baiting lawyers is a favorite sport in most industries, including railroads. But the only valid complaint about most railroad lawyers is that there are not enough of them. A good rate man—or labor relations man, or financial man, or cost analyst—is doubly effective if he has an able lawyer to absorb his significant knowledge and present it to commissions, courts and legislatures. Railroaders should seek and welcome the aid of more such allies.

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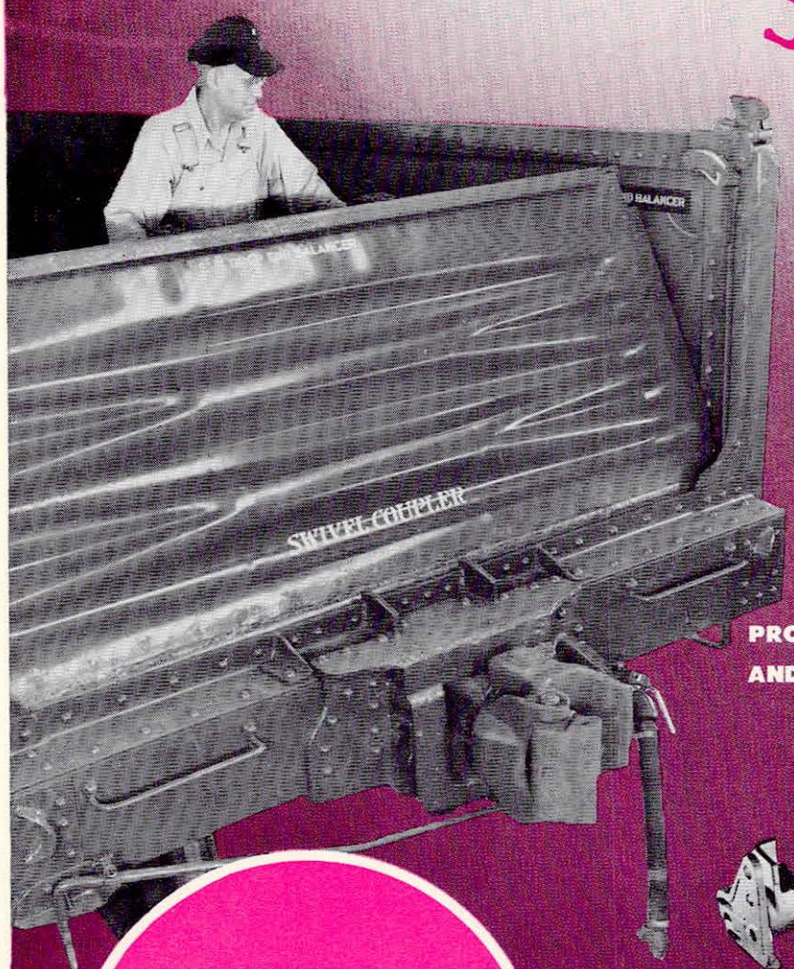

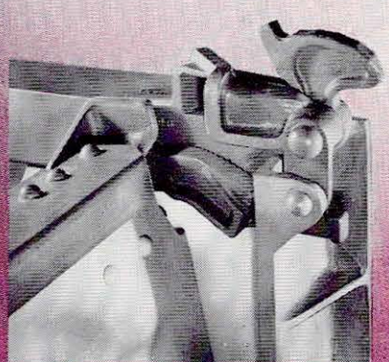

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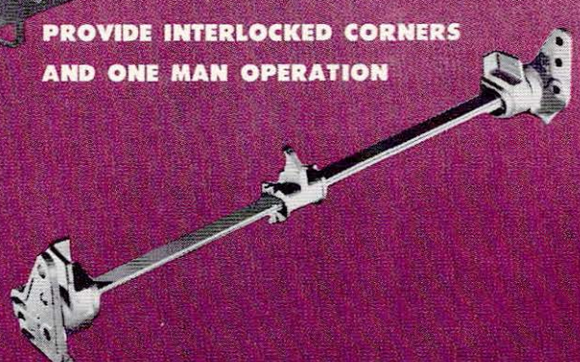

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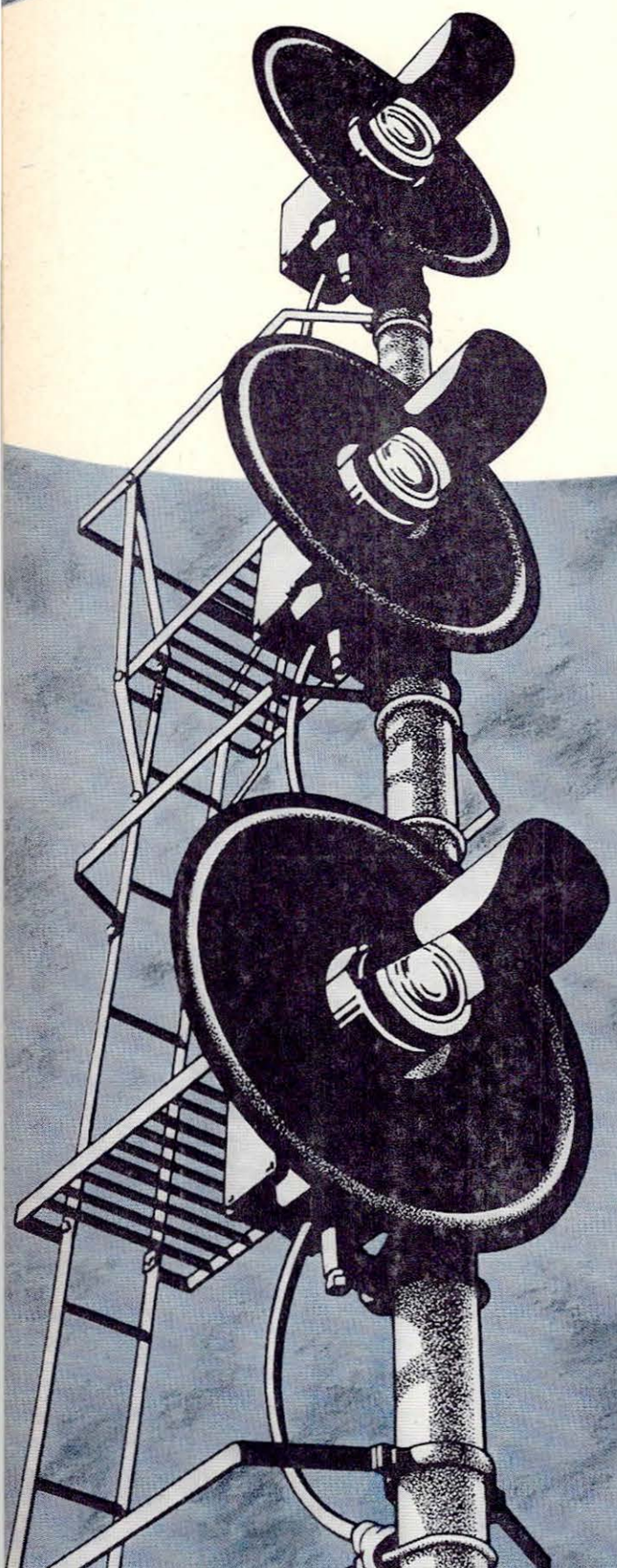

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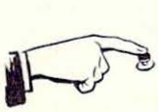

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